DOCUMENT RESUME

ED 148 569 SE 023 112

TITLE Report of a Comparative Study on the Administration of Family Planning Programmes in the ESCAP Region: Organizational Determinants of Performance in Family Planning Services. Asian Population Studies Series No. 29.

INSTITUTION United Nations Economic and Social Commission for Asia and the Pacific, Bangkok (Thailand).

PUB DATE 77

NOTE 56p.

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.

DESCRIPTORS Demography; *Family Planning; International Education; Medical Services; *Population Education; *Program Evaluation; *Research; *Statistical Analysis; World Problems

IDENTIFIERS *Asia; Economic Social Commission for Asia and Pacific; Malaysia; Philippines; Singapore; South Korea

ABSTRACT

This monograph describes a study done to increase the administrative capacity and efficiency of the family planning programs in the ESCAP region through the identification of organizational determinants of clinic performance. Data were collected from different sources, including interviews with clinic staff and data from clinic records. Contents of this publication include the theoretical framework of the study, overall program development, and organizational resources, characteristics, and productivity. (MA)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED148569

ASIAN POPULATION STUDIES SERIES
No. 29

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
ESCAP
United Nations
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

REPORT OF A COMPARATIVE STUDY ON THE ADMINISTRATION OF FAMILY PLANNING PROGRAMMES IN THE ESCAP REGION: ORGANIZATIONAL DETERMINANTS OF PERFORMANCE IN FAMILY PLANNING SERVICES

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

UNITED NATIONS

SE 023 112

NOTE

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

ST/ESCAP/16

PREFACE

This study was conducted by the Population Division of ESCAP in collaboration with five countries of the region: Indonesia, Malaysia, the Philippines, the Republic of Korea and Singapore. The main objective of the study was to increase the administrative capacity and efficiency of the family planning programmes of the region through the identification of organizational determinants of clinic performance. Data were gathered from various sources, including interviews with the clinic staff and data from clinic records.

Mr. Gayl D. Ness of the University of Michigan assisted the secretariat in the capacity of a consultant, by preparing the study design and ensuring its relevancy in each participating country. The national study directors were Messrs. Haryono Suyono and Buchari Zainun (Indonesia), Messrs. Stephen Chee and Fong Chan Onn (Malaysia), Mr. Nestor Pilar and Mrs. Amelia Varela (Philippines), Mr. Kwang-Woong Kim (Republic of Korea) and Dr. Wan Fook Kee (Singapore). The study directors supervised the collection of information for the study and wrote reports on the administration of family planning in their respective national programmes. The Population Division co-ordinated the study and prepared the regional report.

It is hoped that this monograph will be useful to administrators, policy-makers and evaluation personnel in the family planning programmes of the region as well as outside the region and to researchers working in the management of family planning programmes.

CONTENTS

Chapter	Page
INTRODUCTION	1
A. Background	1
B. Objectives of the study	2
C. Study Advisory Council	2
I. THEORETICAL FRAMEWORK OF THE STUDY	3
A. Conceptual framework	3
B. Theoretical framework	3
C. Data collection and analysis	7
II. OVER-ALL PROGRAMME DEVELOPMENT	9
A. Resource mobilization and achievements	9
B. Input-output relationships	9
C. Functional allocations and programme orientation	14
D. Environmental factors	16
III. ORGANIZATIONAL RESOURCES AND PRODUCTIVITY	17
A. Clinic facilities	17
B. Clinic personnel	17
C. Personal characteristics of staff	18
D. Technical background	20
E. Contact and support	21
F. Staff attitudes	22
G. Logistic support	24
IV. ORGANIZATIONAL CHARACTERISTICS AND PRODUCTIVITY	30
A. Organizational profiles of family planning clinics	30
B. Organizational profiles and productivity	32
V. SUMMARY AND ADMINISTRATIVE IMPLICATIONS	37
Annexes	
I. THE STUDY ADVISORY COUNCIL	40
Introduction	40
The idea and the structure	40
Assessment: Success	40
An enlightening exception: Singapore	43
Guidelines for success	43
Appendix: Study Advisory Council Members	44
II. CONVERSION OF SCALES FOR THE ORGANIZATIONAL CHARACTERISTICS DATA	46

INTRODUCTION

A. BACKGROUND

1. By 1970, developing countries in the ESCAP region had recognized that rapid population growth has adverse effects on their efforts in socio-economic development. An increasing number of Governments made commitments to curb rapid population growth. The majority of the Asian members of ESCAP have adopted family planning programmes for this purpose. They have also been expanding their family planning programmes by mobilizing internal and external resources to an almost unprecedented extent. The financial resources appropriated for the family planning programmes have also increased significantly. In addition, the proportion of the internal resources for family planning programmes has shown a significant increase over the past several years, indicating the explicit commitment of the Asian countries in the ESCAP region to family planning.1/

2. As the commitment of these Governments to family planning has been affirmed through public policy statements and an increase in mobilized resources, there has also been growing concern with the efficiency and effectiveness of the family planning programmes. As early as 1966, a regional meeting was held to examine the administrative efficiency of implementing national family planning programmes.2/ The number of similar meetings and studies dealing with the topic has been increasing since then.3/

3. In view of this concern, the Population Division of ESCAP conceived and developed the present study in order to help increase the administrative capability and efficiency of family planning programmes in the ESCAP region. The Population Division first formulated the over-all framework of the study in the latter part of 1971, in consultation with concerned agencies, including the World Health Organization (WHO) and the Eastern Regional Organization for Public Administration (EROPA). Based on this outline, the study design was developed by Mr. Gayl D. Ness of the University of Michigan. The first draft of the study design was submitted to ESCAP in December 1972 and was reviewed and revised in consultation with the staff of the ESCAP Population Division and concerned experts.

4. Subsequently, a preparatory meeting was held at Bangkok from 30 April to 5 May 1973 to further revise the study design so that it would fit more closely the needs of countries participating in the project. It was attended by prospective national study directors from India, Indonesia, the Republic of Korea and Singapore and experts. In addition to Mr. Ness, who was a consultant recruited by ESCAP, WHO provided a consultant to assist the ESCAP secretariat. As a result of this meeting, the study design was substantially revised.

5. The first phase of the study was initiated in July 1973 and completed in December 1974, with the participation of Indonesia, the Republic of Korea and Singapore. The second phase was begun with the participation of Malaysia in January 1975 and with that of the Philippines in June 1975; this was completed by the end of 1975. In the participating countries, research was undertaken by the following national study directors:

Indonesia

Mr. Harjono Sujono, Deputy Chairman III, National Family Planning Co-ordinating Board, Jakarta

Professor Buchari Zainun, National Institute of Administration, Jakarta

Malaysia

Professor Stephen Chee, Faculty of Economics and Administration, University of Malaya, Kuala Lumpur

Professor Chan-Onn Fong, Faculty of Economics and Administration, University of Malaya, Kuala Lumpur

Philippines

Professor Nestor Pilar, College of Public Administration, University of the Philippines, Manila

Mrs. Amelia Varela, College of Public Administration, University of the Philippines, Manila

Republic of Korea

Professor Kwang-Woong Kim, Graduate School of Public Administration, Seoul National University, Seoul

Singapore

Dr. Wan Fook Kee, Chairman, Singapore Family Planning and Population Board

6. This report presents the major findings from four of the five participating countries, namely, Malaysia, the

---

1/ D. Nortman, "Population and family planning programs: a factbook" *Reports on Population/Family Planning*, No. 2, December 1969, pp. 32-40; *ibid.*, No. 2, September 1973, pp. 34-52 and pp. 89-95; and *ibid.*, No. 2, December 1974, pp. 36-44.

2/ *Administrative Aspects of Family Planning Programmes — Report of a Working Group* Asian Population Studies Series No. 1 (United Nations Publication, Sales No. 66.II.F.10).

3/ At least one global association especially aimed at increasing the management capability of population and family planning programmes has been established: the International Committee on the Management of Population Programmes, with its secretariat in the Philippines.

Philippines, the Republic of Korea and Singapore.[4] It also provides cross-national analysis of the data from these four countries and their programmatic implications.

B. OBJECTIVES OF THE STUDY

7. The general objective of the study was to assess the performance of the national family planning programmes and to identify organizational determinants of their performance. It was also to demonstrate the utility of research for improving family planning programme management by making effective recommendations for administrative changes to increase programme performance. Thus, the objective involved both research and practical action.

8. More specifically, the research aspect of the study was to develop measures of performance that could be used effectively for management and evaluation of family planning programmes. This objective required:

(a) The development of measures of family planning programme performance in terms of outputs, and of output/input ratios or indices of programme productivity;

(b) The development of methods for quantifying the organizational processes that may affect levels of programme productivity; and

(c) Investigation of the relations between organizational variables and the level of programme productivity, especially at the lower operational levels.

9. The action dimension of the study was provided within the research project in order to ensure that questions and findings would be relevant to national family planning programmes and useful to programme administrators.

4/ At the time of writing this report, the Indonesian national report was not completed. Furthermore, the complete data were not available from Indonesia for use in the cross-national analysis.

C. STUDY ADVISORY COUNCIL

10. As a structure for the over-all control of the project to ensure that the study would produce results beneficial for the programme, a Study Advisory Council (SAC) was established in each country participating in the project. Since the programme administrators were already highly knowledgeable concerning the various factors influencing programme performance, they were expected to guide the researchers in interpreting the data. Any recommendations for the improvement of the administration of the programme must have the full support of the programme administrators who would ultimately put the recommendations into effect. Such support was feasible only if the recommendations were relevant to the administrators. Further, such recommendations could be realistic and helpful only if the programme administrators themselves were deeply involved in identifying programme problems and in formulating recommendations.[5]

11. Considering the multidisciplinary nature of family planning, each country was advised to enlist the active involvement of senior administrators who were crucial for the implementation of the national family planning programmes. Thus, SAC included in all but one participating country a multi-ministerial representation: the family planning programme director or his immediate subordinate; a member of the treasury department or of the economic planning agency which determined the resource allocation for the family planning programme; a member of the Ministry of the Interior; a member from the agency which dealt with the civil service personnel; and a member from the Ministry of Health or Social Welfare.[6]

5/ For a more theoretical discussion, see Gayl D. Ness, "An Experiment in Administrative Research", a paper presented at the Regional Seminar on the Role of Surveys and Studies for Family Planning Programme Management and Development, convened by ESCAP at Bangkok, 28 January - 9 February 1974.

6/ Ness, *op. cit.*, pp. 5-13. The exception to this was Singapore which decided to have an in-house SAC. The SAC membership varied from one country to another. For a detailed discussion, see annex I to this report.

I. THEORETICAL FRAMEWORK OF THE STUDY

A. CONCEPTUAL FRAMEWORK

12. The study viewed the family planning programme as an organization in the larger distributive network of development services. Such an organizational orientation implied that authority and resources were deliberately established for a specific organization whose major goals of action included providing contraceptive service and supplies. It further implied that the character of that organization and the resources and type of work put into it would affect the extent to which it achieved its goals. Such an orientation recognized, however, that there were other determinants of fertility decline, including private market networks and private agencies involved in family planning activities. It also recognized that fertility limitation and the subsequent fertility decline was itself only one means, which operated only under certain conditions, of achieving the goal of human betterment on both individual and societal levels. This organizational orientation is illustrated in figure 1. It shows the limited focus of the study on the organization that has been deliberately created and that constitutes one of the determinants of the spread of fertility-limiting behaviour.

13. The study recognized that the organizational variables focused on would not explain all or even a major portion of the variance in fertility decline, even in the larger service network. The organizational variables were, however, important determinants of both outcomes. The less developed the market network was or the more isolated a given population, the greater would be the power of the organizational variables to explain variance on the outcome. At the same time, if the organizational variables explained even a small amount of variance, that would be significant largely because those organizational characteristics were subject to managerial control.

B. THEORETICAL FRAMEWORK

1. The organization and diffusion of technologies and practices

14. One of the major aims of the family planning programmes in the ESCAP region is the diffusion of contraceptive technology and the diffusion of the small-family norm. It has been shown that the acceptance of the small-family norm or fertility-limiting behaviour depends upon prior reductions in mortality, and the availability of effective and inexpensive contraceptive techniques.[7/] In effect, family planning programmes accept as given the prior decreases in mortality, and are thus primarily concerned with the diffusion of newly available fertility-limiting technology.

15. Although other concerns are emerging, such as the attention to a broader range of social and economic reforms,[8/] the problem of distributing supplies and information will remain a critical problem for the programmes for some time. The problem will become exacerbated as long as market mechanisms for the spread of contraceptives remain limited and relatively larger numbers of women outside market networks require assistance.

16. The diffusion of this new technology and its related behaviour patterns is ultimately a question of acceptance by individual women and families. Individual acceptance is in part determined by individual characteristics, which have been effectively studied through KAP and other survey techniques using the individual acceptor as the unit of analysis.

17. The diffusion of a new technology is also determined, however, by the organizational networks through which the technology is promoted.[9/] The family planning programmes in the ESCAP region represent a critical portion of this network for the diffusion of new contraceptive technology. Thus, the study had its focus on those organizations which were deliberately established to diffuse modern contraceptive information and technology rather than on the individual acceptors.

18. Programmes or organizations that are successful in the distribution of a new technology show two important characteristics.[10/] They have the capacity to extend themselves to individual acceptors, and to adapt the new technology to the specific requirements of the individual acceptor. Both of these characteristics are part of the fundamental character of the organization responsible for the diffusion. They are governed broadly by the structure of the organization and the type of work that is put into it. More specifically, they are determined by the administration of the organization in its broader sense. Programme extension capacities are a product of the general orientation of the programme, which is formed by the policy-makers, and of the specific patterns of job specification, recruitment, training, control and the flow of resources that move within the organization. The capacity to adopt a new technology is a product of higher-level decisions of the specific technology to be used, and of the work performance of the lower-level

7/ R. Freedman and B. Berelson, "The record of family planning programs", *Studies in Family Planning*, vol. 7, No. 1 (January 1976), especially pp. 10-12.

8/ B. Berelson, "Beyond family planning", *Studies in Family Planning*, No. 38 (February 1969), pp. 1-16; and Rafael Salas, *Address to the Second Asian Population Conference*, Tokyo, Japan, 1 November 1972.

9/ E. Rogers, *Diffusion of Innovations* (New York, Macmillan, 1962), pp. 124-134.

10/ H. F. Lionberger, *Adoption of New Ideas and Practices* (Iowa, Iowa State University Press, 1960), pp. 12-17 and 21-25.

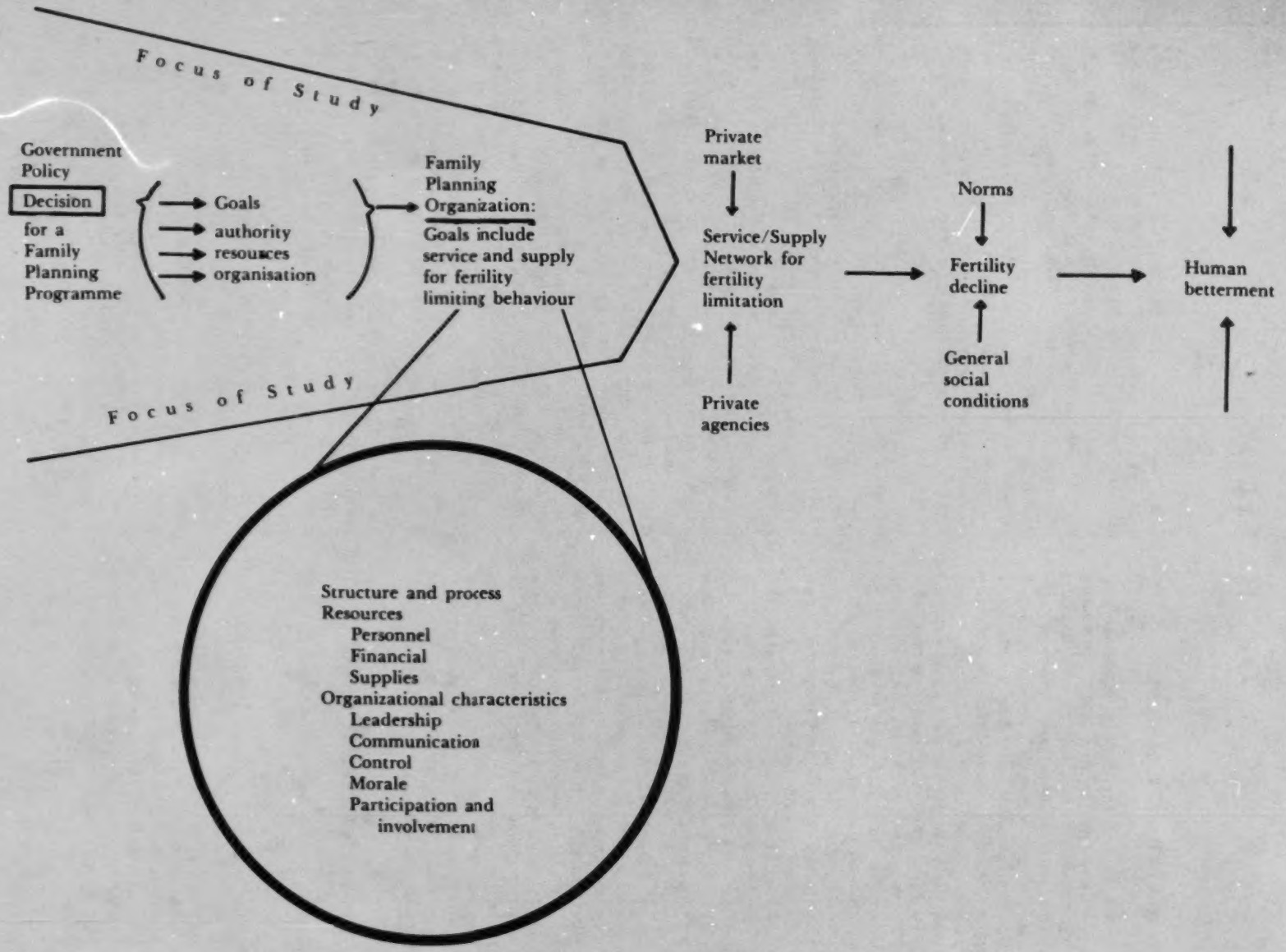


Figure 1. Simplified description of the location of family planning organization in the larger network leading to human betterment through fertility decline.

[This does not attempt to portray the two-way and feedback relations that exist in the network.]

staff who provide service to clients. All of these factors constitute the critical organizational characteristics that are included in what is broadly called the administration of the programme.

19. Thus, the study concentrated on the administration of the family planning programmes to provide fuller understanding of the determinants of success in achieving the spread of fertility-limiting techniques and practices.

2. Organizational performance and its measurement

20. Organizational performance or effectiveness has been subject to a wide variety of definitions or meanings.[11/] Survival, growth, internal cohesion, goal achievement, and output-input ratios all constitute elements associated with the concept of performance and effectiveness. Since family planning programmes have, as an important goal, the distribution of fertility-limiting techniques, gaining new acceptors and maintaining users, it is possible to define performance simply in terms of the numbers of acceptors achieved and services provided. It is also possible to define effectiveness both in terms of acceptors and services relative to some target population or to inputs into the programme.

21. Programme inputs are commonly conceived in terms of costs or financial inputs. However, the problems of costing are highly complex. Where a programme is set in a separate and distinct organization, the problem is simplified since the total budget and the value of physical assets can be taken as the over-all cost. Even in such cases, programmes tend to use other facilities such as existing health clinics and facilities, which complicates the problem of attributing costs to one single programme. It is more common to find programmes that are either set in another ongoing programme or that make extensive use of personnel and facilities of existing programmes. In this case, the problem of dividing personnel and facility costs and attributing the correct proportion to family planning becomes highly difficult, if not impossible.[12/]

22. An additional problem of using financial inputs lies in the incomparability of costs over time as well as between different programmes.[13/] As prices fall or rise, they introduce significant inaccuracies into the definition of programme costs. This makes it difficult to evaluate the effectiveness of programmes over time. In addition, different relative price levels, for example, between urban and rural areas, between different regions, and between different countries, make it difficult to compare programme costs in different areas.[14/] Finally, the use of cost accounting at different times presents serious problems for the individual administrator since the raw data of financial inputs tend not to be a part of the regular reporting procedure and thus cost accounting requires more time and effort.

23. Given all these difficulties, the current project proposed to define programme inputs largely in terms of personnel time. Staff time provides a direct measure of one of the most critical inputs into any programme. Furthermore, staff inputs tend to be part of the regular reporting procedures or can be easily introduced into ongoing evaluation procedures. Thus, they require less extra time and effort on the part of administrators. Finally, staff time represents a measure that is relatively comparable over time periods and between different countries. The possibilities of discovering critical determinants of effectiveness by comparative analysis are then greatly enhanced.[15/]

24. Programme outputs can also be conceived in three different categories: internal output, external output and external impact.[16/] Internal outputs include such things as research reports and internal training and supply procedures, which are outputs of specific sub-units in the programme but are also inputs into other parts of the programme. External outputs include motivational and informational activities, and provision of contraceptive services. External impact includes the effect of achieving and servicing acceptors on the over-all societal rate of fertility.

25. For the basic measure of programme performance, the study used a simple output-input ratio of external outputs to staff time. More specifically, the ratio was acceptors per staff day, which is referred to throughout as a measure of productivity. This basic measure has a two-part advantage. The first is ease of collection. The component parts of the measure are typically included in normal service statistics. Thus the computations can be done at short intervals along with periodic reports, and they can be done for all lower level units of the programme. That is, the computation can be done for the local clinic and it can be aggregated for various intermediate administrative levels of the programme. Managers are thus able to examine performance at various levels from regularly collected data and need not mount expensive and time-consuming studies to assess the

---

11/ D. Katz and R. Kahn, *The Social Psychology of Organizations* (New York, John Willey, 1966), chap. 6; also J. L. Price, *Organizational Effectiveness* (Homewood, Illinois, Richard D. Irwin, Inc., 1968), pp. 2-3. Particularly in Price, performance is "degrees of goal achievement."

12/ ESCAP, *Report of Expert Group Meeting on Socio-Economic Returns of Family Planning Programmes*. Recent literature also shows that performance is to be measured as output/input ratio. See J. A. Mark, "Meanings and measures of productivity", and G. T. Yamada, "Improving management effectiveness in the Federal Government", in *Public Administration Review*, vol. XXXII, No. 6, 1972, pp. 747-755 and 746 respectively.

13/ *Socio-Economic Returns of Family Planning Programmes*, Asian Population Studies Series No. 12, 1973, para. 44.

14/ *Ibid.*, para 45.

15/ In addition to personnel time, staff costs may be used as input variables. Using staff time as a single measure of input masks important variations in the quality of the staff. Taking account of such variations, staff time may be weighted by a mean salary value for each major occupational category (e.g. doctors, nurses, field-workers, information personnel, etc.).

16/ *Socio-Economic Returns of Family Planning Programmes*, Asian Population Studies Series No. 12, 1973, chap. IV.

performance of their component units.

26. Secondly, the basic measure can be elaborated in a variety of ways to suit the specific needs of a programme. For example, since the programme of the Republic of Korea uses a variety of contraceptive methods, the acceptors by methods were weighted by a protection factor, similar to the couple years of protection (CYP) factor, and the output measure became CYP obtained from the total number of acceptors (new and revisits) each month. Thus the output-input ratio used in the study of the Republic of Korea was total couple years of protection per staff day, or TCYP/SD. For the Malaysian programme this type of elaboration was far less useful, since over 90 per cent of acceptors are pill acceptors. In this case, however, it is important to observe not only the new acceptors, but the return visits. Thus the Malaysian programme developed two elaborations that were more meaningful for its own assessment. One was the simple new acceptors per staff day (NA/SD), which was conceived as a measure of recruitment efficiency. The second was revisits per staff day (Rev/SD), which was conceived as a measure of maintenance or holding efficiency, or the capacity of a local clinic to keep its acceptors coming back for continued supplies.

3. Determinants of lower-unit performance: organizational resources and organizational characteristics

27. In organizations designed to diffuse a technology, the workers who come into direct contact with the client population comprise a critical portion of the staff. To a large extent, the success of a family planning programme will depend on how well the lower-level workers perform their jobs. This in turn will depend in part on the resources of the lower-level workers and the character of the organization in which they work.

28. There are indications that the degree of technical training available in the clinic is a strong determinant of clinic efficiency.[17] There are also indications that logistics systems, especially with regard to the availability of supplies and transportation, have a powerful impact on performance.[18] There are empirical findings that the control through reporting procedures affects the performance of individual workers.[19] Some empirical studies conducted in different cultures and on different types of organizations showed that organizational characteristics affect personnel resources, material resources and reporting control procedures and the over-all levels of organizational performance.[20]

29. Therefore, the study focused its attention on the relationship between the performance of the lowest administrative unit of the national family planning programmes in the countries which participated in this study project and its environmental factors and resources as well as its organizational characteristics. More specifically, it explored the relationship between the productivity of the family planning delivery unit at the lowest administrative level, namely, a family planning clinic, and its environmental condition, physical and personnel resources. It also examined the association between clinic productivity and the attitudes of the staff at the clinic. It further explored the organizational behaviour of the clinic and its relationship to productivity.

30. The study consequently proposed to test the model which Likert asserted to be the most effective system. Such a system was to have the following organizational characteristics:

(a) Superiors are supportive of subordinates and have high performance goals for the organization;
(b) There is mutual trust and confidence between superiors and subordinates and concensus on organizational goals;
(c) There is a high level of accurate communication upwards and downwards and laterally within the organization;
(d) Goal-setting and control is done within work groups, rather than on a man-to-man basis or by simple downward communication of orders;
(e) There is a high degree of co-operation within and among work groups in the organization; and
(f) Over-all, this produces an organization marked by a high degree of participation of all members at all levels in the work of the organization.

Likert further translated these characteristics into the following dimensions.[21]

(i) Leadership process;
(ii) Motivational forces;
(iii) Communication process;
(iv) Decision-making process;
(v) Goal-setting process; and
(vi) Performance characteristics.

Organizations are classified by Likert into four systems along these dimensions. They are:

(i) System 1: Exploitive and authoritative;
(ii) System 2: Benevolent and authoritative;
(iii) System 3: Consultative; and
(iv) System 4: Participative.

17/ Preliminary findings from the research conducted by Gayl D. Ness on the family planning clinics in Malaysia in 1970.

18/ Informal discussions with Samuel Keeny of the Population Council in Bangkok, intermittently during 1973-1975.

19/ Peter Blau, *The Dynamics of Bureaucracy: A Study of Interpersonal Relations in Two Government Agencies* (Chicago, University of Chicago Press, 1955).

20/ Rensis Likert, *The Human Organization: Its Management and Value* (New York, McGraw-Hill, 1967) and Frank K. Gibson and Clyde B. Teasley, "The humanistic model of organizational motivation: A review of research support", *Public Administration Review*, vol. 33, No. 1 (January/February 1973), pp. 89-96.

21/ Likert, *op. cit.*, pp. 13-77. Two other dimensions, interaction-influence process and control process, were excluded from the study.

For classification, he also developed instruments to measure the organizational characteristics. The instruments were based on an ordinal scale as shown in figure 2.

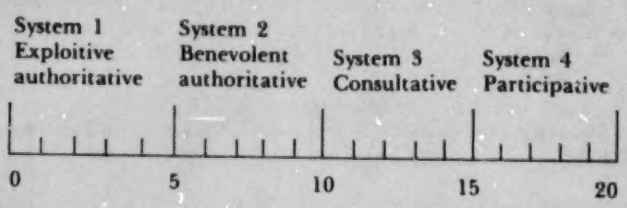


Figure 2. Likert's organizational profile scale

The study applied these instruments to assess the organizational behaviour of the family planning clinic.

C. DATA COLLECTION AND ANALYSIS

Data

31. The study is based on the six sets of data obtained in each of the participating countries following the instruments provided by the secretariat.[22] They are:

(a) Longitudinal programme data;
(b) Programme performance data by clinic;
(c) Environmental data;
(d) Administrative structures and process data;
(e) Clinic physical and personnel resources data; and
(f) Organizational characteristic data.

32. The first set of data included information regarding the financial and personnel resources invested in the family planning programmes over the programme history years. It also contained such information on the annual programme achievement as number of new acceptors and continuing family planning users. These data were collected mainly from official reports published by the national family planning agencies.

33. The second set of data dealt with the inputs and outputs of the entire national and/or sampled family planning clinics over the 12 months prior to the interviews with the clinic staff. The input data which were staff days available for the clinic operation and the output data which were the number of new acceptors and that of revisits or continuing users of family planning were gathered from the research and evaluation unit of the national family planning programme offices. The output data were readily available in the participating countries through regular service statistics systems. In the Philippines, however, the input and output data were collected from the sampled clinics in the period May-July 1975 because of the unavailability at the central office of input data by individual clinic.[23]

34. The environmental data included such information as population size and density, number of married women of reproductive age (MWRA) and distribution of population by ethnic and religious identities in the geographic or administrative unit most closely associated with the clinic. They were obtained primarily from the available census records in the participating countries.

35. The fourth set of data provided the general description of the over-all administrative set-up of the national family planning programmes. It also presented the relationship between the central co-ordinating office and the implementing agencies at the local level. The data were based on the official reports of the national family planning programmes, research papers by social scientists and publications by external donor agencies.

36. The fifth and sixth sets of data on the physical and personnel resources and organizational character of each family planning clinic were gathered through interviews with the clinic staff. The interviews solicited such information as the availability of clinic facilities and supplies for family planning, staffing pattern, educational, training background and contraceptive behaviour of the staff, as well as the staff attitude toward the client population, their work group, the family planning programme and their work.[24]

Sampling procedures

37. For the collection of the physical and personnel resource data and the organizational characteristic data of family planning clinics, clinic personnel were surveyed by the national study team members. In Singapore and Malaysia all clinics were surveyed, and virtually all clinic staff were included. In the Philippines only 60 clinics were surveyed. Two provinces were selected, Iloilo and Pampanga, to represent the provinces with lower and higher levels of population density. These two provinces had roughly equal levels of productivity, insofar as that could be determined by the national level data from the central office. In Iloilo province all clinics were included in the survey. In Pampanga half of the clinics were included, using random selection and proportionate representation of the three agencies included in the over-all study (Department of Health, Family Planning Organization of the Philippines and the Institute of Maternal and Child Health). The total number of personnel included in the interview of all 60 clinics was 208.

38. In the Republic of Korea, 36 clinics were

22/ For the instruments, see annexes to each of the country reports. The standard set of instruments provided by ESCAP were revised to make them specifically relevant to each of the country programmes.

23/ Data gathered by the central office are also known to be inaccurate, although the specific sources and extent of inaccuracy are not fully known. Thus the central office discounts between 20-40 per cent of the records of acceptors it receives from its own field organizations. See for instance, Commission on Population, Republic of the Philippines, "A Study of Input-Output Relationships in the Philippine Family Planning Program" (mimeographed report submitted to ESCAP Population Division, June 1975), p. 2.

24/ For the questionnaire, adopted by the participating countries, see the country reports.

included in the sample. Sampling was done by stratifying urban and rural clinics, ranking all clinics by productivity, and selecting clinics at equal intervals. Of the 36 clinics, 10 were urban and 26 were rural; the total number of personnel interviewed from these 36 clinics was 408.

39. In Malaysia and Singapore, all the national clinics providing family planning services were included in the survey except for those few clinics which were established immediately prior to the study. Thus, 72 clinics operated by the National Family Planning Board were selected and 321 staff members were actually interviewed in Malaysia.[25/] In Singapore, all of the 39 clinics of the Singapore Family Planning and Population Board were included in the Survey.

Standardization of data

40. The analysis of these six sets of data was conducted by the country study directors in their countries. In addition, a copy of the data in a machine-readable form was sent from each country to Bangkok for further verification of their reliability by the secretariat. It was also used for cross-national analysis by the secretariat. For this purpose, however, the attitudinal and organizational profile data were standardized before indices were constructed for the staff attitudes and the organizational characteristics since the data were based on ordinal scales. Standardization of the data, especially of the organizational profile data, was also necessary as the Philippines and the Republic of Korea used 20-point scales while Singapore applied a 4-point scale, and Malaysia a 16-point scale.[26/] The following equation was used for the standardization:

$$\text{Standardized score} = 50 + 10 \times \left[\frac{\text{raw score} - \text{mean}}{\text{standard deviation}}\right]$$

Since the national studies did not apply standardization procedures, there were sometimes discrepancies between the statistical data in the cross-national analysis and those in the individual country analysis.

Notations

41. Throughout the statistical analysis in this regional report, the following notations are used:

* denoting .05 significance level
** denoting .01 significance level.

25/ Data from 69 out of these 72 clinics were actually analysed. For details, see Malaysian National Study. The organizational profile instrument was administered to 72 supervisory staff members. See also Singapore National Study.

26/ The different scales used in each country are shown in annex II.

II. OVER-ALL PROGRAMME DEVELOPMENT

A. RESOURCE MOBILIZATION AND ACHIEVEMENTS

42. All countries mobilized increasing amounts of financial and human resources for their family planning programmes over the period covered by this study. All countries have also recruited large numbers of new acceptors each year, although there has not been steady growth in this figure. Patterns of growth have varied considerably, however, and it is useful to consider these briefly to note the different paths national programmes may take in advancing their ends. Table 1 and figure 3 show the relevant time series for the four countries.

43. In financial resource mobilization all country programmes have grown steadily and substantially. Malaysia and the Republic of Korea grew very rapidly in the first year or two, with a slower growth rate thereafter. These are administratively distinct programmes, which require time to create and staff the organization in its initial stages. The Philippines and Singapore, which mobilize financial resources to inject into existing organizations, have shown a more steady pattern of growth throughout the period. In comparative terms, the Philippines expenditures grew at an annual average rate of 54 per cent over four years and Singapore 33 per cent over six years. After the initial year of rapid growth in Malaysia, expenditure grew at an annual average rate of 16 per cent over 5 years, and in the Republic of Korea expenditure grew at 59 per cent after the initial two years of build-up.

44. Growth in financial allocations has been eroded in all cases by inflation. For the Republic of Korea and the Philippines, inflation has diminished real financial growth quite substantially. The Republic of Korea's 39 per cent average annual growth rate declined to 13 per cent in real terms, and the Philippines' 54 per cent growth declined to only 17 per cent in real terms. Malaysia and Singapore have experienced far less severe inflation and consequently have lost only a few percentage points in the adjustment to real costs. A consumer price index was used to deflate all expenditure figures, and present a series in constant as well as current cost figures.

45. Patterns of growth in staff were comparable to those in financial resources for all countries except the Philippines. The staffing growth of Malaysia and the Republic of Korea followed the pattern of expenditure growth, moving rapidly in the first year or two, and more gradually thereafter. Singapore began with a substantial staff, 401, and grew only gradually thereafter, with staff growth rates considerably below the growth rate of expenditure. The staff growth of the Philippines was more erratic than that of the other three countries. Staff numbers grew from 28 to 2,849 and thence to over 9,000 in the first three years, remained steady in the fourth year and declined to just over 6,000 in the fifth year. This reflects primarily the experiment of using lay motivators in the third and fourth years and discontinuing their use in the fifth year.

46. Although all programmes have recruited substantial numbers of new acceptors each year, only the Republic of Korea has shown an over-all growth in numbers. Malaysia experienced a rapid initial growth for the first three years, followed by a decline, levelling off at about 35,000 new acceptors per year. Singapore grew in new acceptors for the first four years, declined steadily for the following two, and showed a slight rise in 1972. The Philippines has experienced two peaks in the second and fourth years, each being followed by a decline in new acceptors.

B. INPUT-OUTPUT RELATIONSHIPS

47. The over-all time series of data can be used to examine relationships between programme inputs and programme outputs. Table 1 also shows three such ratios. New acceptors per staff (NA/S) can be used to reflect the over-all human efficiency of the programme. Expenditure per new acceptor ($/NA) reflects the general cost of achieving each new acceptor, and can be conceived of as a form of cost efficiency. Finally, expenditure per staff ($/S) is similar to a capital-labour ratio, reflecting primarily the general professional or technical level of the staff. It is difficult to compare the absolute levels of this ratio for the four countries, however, due to vast differences in general wage and salary rates, with Singapore and Malaysia considerably higher than the Republic of Korea and the Philippines. It is possible, however, to compare changes in all three ratios over time for the four programmes. The data for this comparison are shown in table 1 and in figure 4, which show index numbers for each of the ratios for the four programmes.

48. The patterns of change in these three ratios show considerable variance for the four programmes. The Republic of Korea alone shows some increase in the efficiency ratios. New acceptors per staff show a general rising trend; the cost per new acceptors rose up to 1968 and has declined generally since then. This has also been associated with a general rise in the expenditure per staff. This case presents the possibility that programmes may increase their efficiency by increasing their financial inputs. Singapore, on the other hand, may represent the special conditions of an affluent urban environment, where the private market can provide effective service to many people. That is, Singapore has shown a real decline in fertility and a substantial increase in contraceptive use, but the programme shows a general decline in human or cost efficiency. Staff costs have increased, as

Table 1. Financial, personnel programme activity and productivity ratios

MALAYSIA*

Actual expenditures

Year	New acceptors	Staff	Current $ ($M1,000)	Constant $ ($M1,000)	Price index[a/]	NA/S	$M/NA	$M/S
1967	8,247	101	900	909	99	82	$110	$9,000
1968	43,058	231	2,069	2,111	98	186	$ 49	$9,139
1969	48,140	281	2,524	2,576	98	171	$ 54	$9,167
1970	39,442	333	2,778	2,778	100	118	$ 70	$8,342
1971	36,157	381	3,397	3,330	102	95	$ 92	$8,740
1972	35,015	388	2,811	2,677	105	90	$ 76	$6,899
1973	35,511	425	3,738	3,222	116	84	$ 91	$7,581
1974	36,628	481	—	—	—	76	—	—

* Malaysian National Study.

a/ General Consumer Price Index (1970 = 100); United Nations, *Statistical Yearbook*, 1974, table 179, p. 592.

PHILIPPINES*

Actual expenditures

Year	New acceptors	Staff	Current $ ($1,000)	Constant $ ($1,000)	Price index[a/]	NA/S	$/NA	$/S
1971	252,599	28	1,731	1,407	123	9,021	$5.57	$50,250
1972	450,872	2,849	2,831	1,980	143	158	$4.39	$ 695
1973	392,329	9,075	3,462	2,263	153	43	$5.77	$ 249
1974	648,460	9,733	4,338	2,083	213	67	$3.21	$ 214
1975	586,482	6,324	5,490	2,387	230	93	$4.07	$ 377

* Philippine National Study.

a/ General Consumer Price Index for Manila (1970 = 100), 1971-73; United Nations, *Statistical Yearbook*, 1974, table 179, p. 592; 1974 and 1975 estimated based on *Far Eastern Economic Review, Asian Yearbook*, 1976, percentage increase in reported consumer price index, p. 263.

Table 1. (Continued)

REPUBLIC OF KOREA*

Actual expenditures

Year	New acceptors	Staff	Current $ ($1,000)	Constant $ ($1,000)	Price index a/	NA/S	$/NA	$/S
1962	62,000	255	275	723	38	244	$11.66	$2,835
1963	151,000	704	405	880	46	215	$ 5.83	$1,250
1964	288,000	3,592	1,098	1,771	62	80	$ 6.15	$ 493
1965	431,000	3,669	1,302	1,887	69	118	$ 4.38	$ 514
1966	580,000	3,701	2,318	3,091	75	157	$ 5.33	$ 835
1967	495,000	3,909	2,518	3,187	79	127	$ 6.44	$ 815
1968	440,000	3,774	4,310	5,012	86	117	$11.39	$1,328
1969	539,000	3,884	4,726	5,137	92	139	$ 9.53	$1,323
1970	646,000	3,814	4,470	4,470	100	169	$ 6.92	$1 172
1971	674,000	3,791	5,665	5,179	109	178	$ 7.71	$1,371
1972	695,000	4,020	4,488	3,619	124	173	$ 5.21	$ 900

* Republic of Korea National Stury.
a/ General Wholesale Price Index (1970 = 100); United Nations, *Statistical Yearbook*, 1974, table 46, p. 221.

SINGAPORE*

Actual expenditures

Year	New acceptors	Staff	Current $ (S$1,000)	Constant $ (S$1,000)	Price index a/	NA/S	$S/NA	$S/S
1966	30,887	401	278	289	96	77	$ 9.36	$ 721
1967	35,588	413	344	347	99	76	$ 9.75	$ 840
1968	36,392	435	628	628	100	83	$17.26	$1,444
1969	37,081	424	691	691	100	87	$18.63	$1,630
1970	26,591	422	828	828	100	63	$31.14	$1,962
1971	21,710	445	881	864	102	49	$39.80	$1,942
1972	23,841	459	896	862	104	52	$36.16	$1,878

* Singapore National Study.
a/ General Consumer Price Index (1970 = 100); United Nations, *Statistical Yearbook*, 1974, table 179, p. 592.

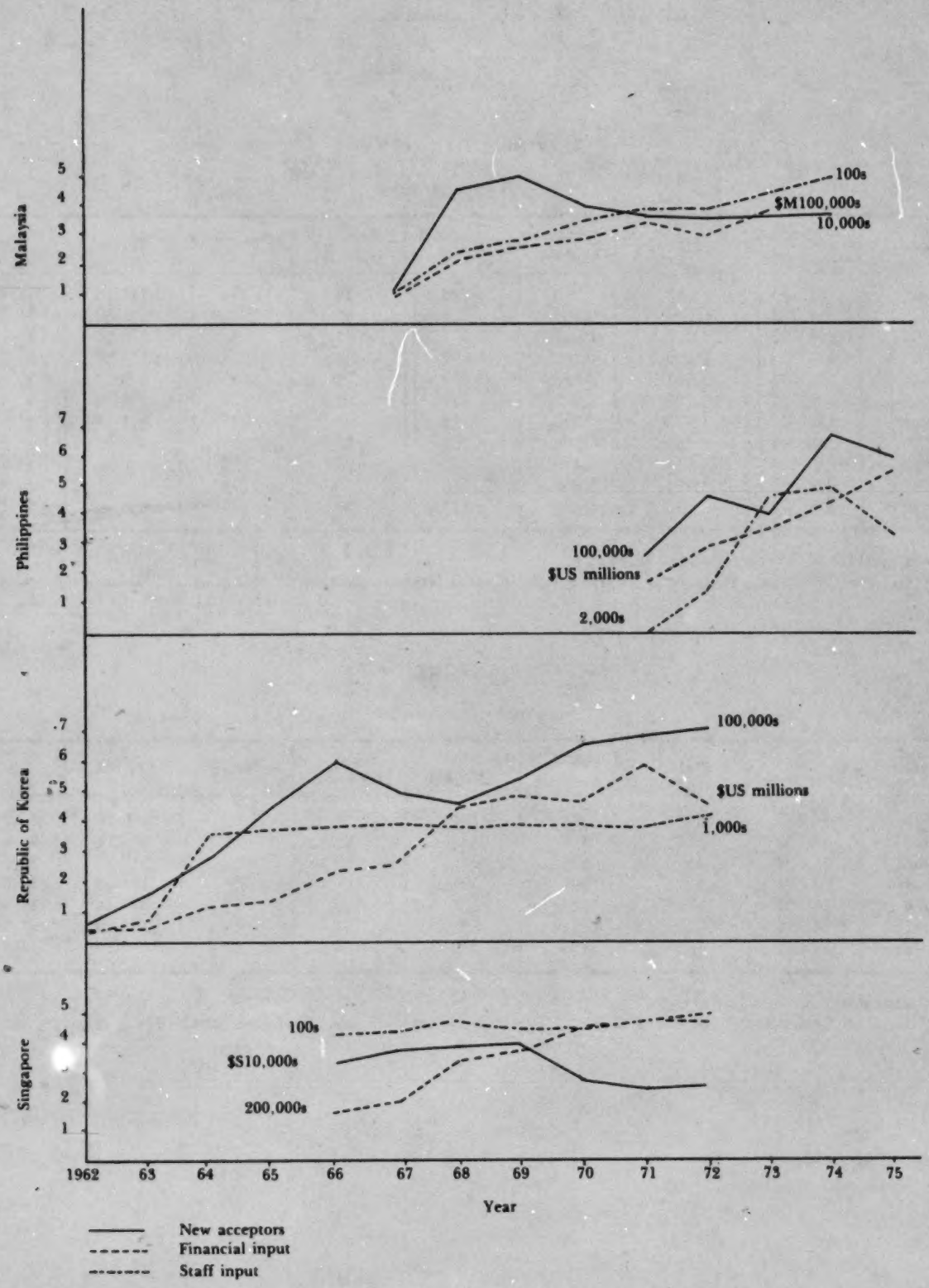
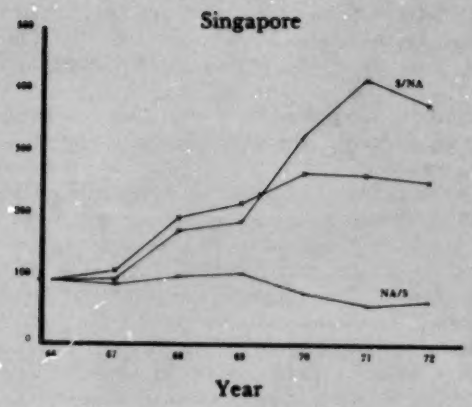
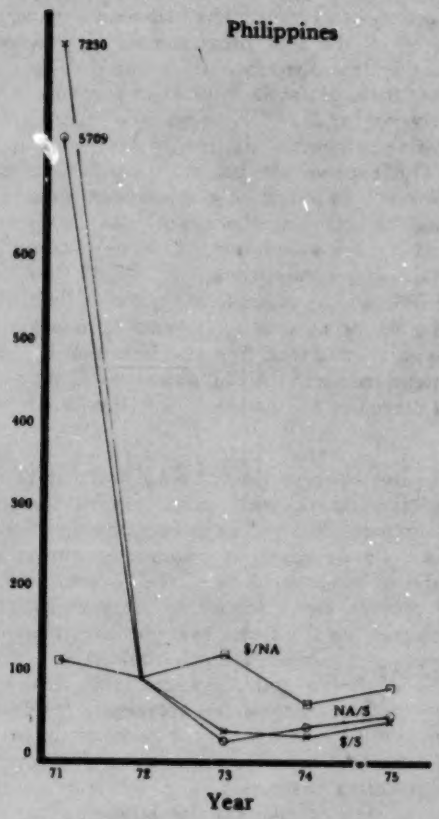
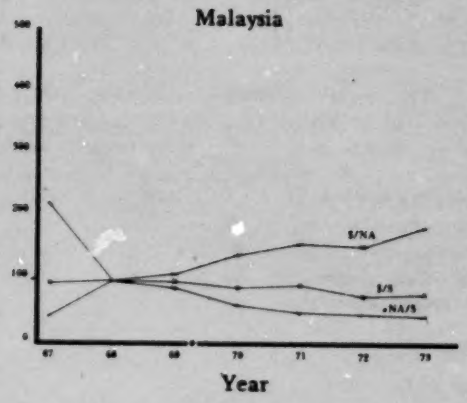


Figure 3. Financial and personnel resources and programme output







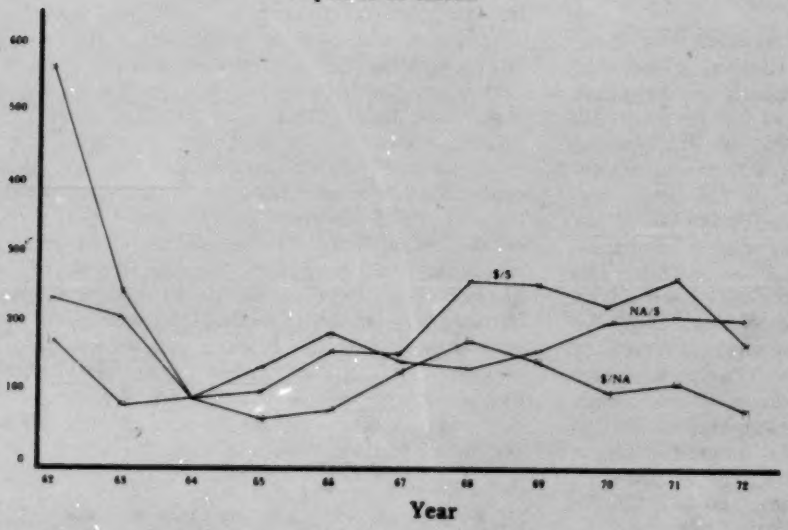


Figure 4. Index numbers for NA/S, $/NA, $/S

have costs per new acceptor. These increases have been the greatest of all the four programmes. New acceptors per staff rose for the first four years but have generally declined since then. Malaysia showed an increase in costs per new acceptor and a decline in new acceptors per staff, indicating a general decline in cost and human efficiency. The expenditure per staff has also declined slightly, however. In effect, the Malaysian programme has increased its financial allocations, but this increase has not kept up with inflation. This observation may lead the Malaysian administrators to ask if they might not profitably follow the example of the Republic of Korea and it might not be possible to increase human and cost efficiency by increasing total financial inputs. It is difficult to discern major trends in the Philippines, as all ratios have shown both decreases and increases over the short span of five years.

49. The use of these ratios over a number of years provides administrators with only general indicators about performance. More detailed information on performance can be obtained by examining output-input ratios for the lower level units of the programmes, the clinics that provide direct service to the population. At the most general level, we can examine the relationship between inputs and outputs at each clinic. For Malaysia, the Republic of Korea and Singapore, this relationship was strongly positive. Zero-order correlation coefficients ranged from about 0.6 to 0.9 for the relationship between various measures of inputs to outputs. This provides a generally comforting indication of programme performance. That is, family planning programmes are deliberately established to achieve a specific end, recruiting contraceptive acceptors to reduce fertility. Further, each programme mobilizes resources for this programmatic activity. When there is a positive correlation between inputs and outputs at the clinic level, there can be some confidence that the resources are being rationally mobilized and directed to the programme and are indeed having the effect of achieving programme ends.

50. The Philippines presents a different and more puzzling picture. There was no relationship between resource inputs and acceptor recruitment at the clinic level. Zero-order correlation coefficients for the 60 clinics surveyed ranged from 0.03 to 0.20 for the various measures, with no measure achieving a 5 per cent level of statistical significance. It must be pointed out, however, that this computation for the Philippines is not fully comparable with those for the other three countries, for which central statistical data were available on programme inputs and outputs by the local clinic. Thus the computation of output-input correlations could be done for all clinics for a full year of service. Such data are not centrally available for the Philippines programme. Thus the research project made three different estimates of inputs and outputs for a period of one to three months for each of the 60 clinics surveyed. Data on outputs were taken directly from clinic records. Data on inputs were taken from clinic staff lists, and also for the staff who were actually in attendance at the time the survey was carried out. Thus there are a number of possible explanations for the lack of a correlation between inputs and outputs among the Philippines clinics. First, since the estimates were made for one to three months rather than for the entire year, seasonal variations in acceptance may introduce an error in the estimates. Secondly, the 60 clinics surveyed may not be representative of the entire programme. Both explanations focus on possible biases or errors in the estimating procedure, which call into question the validity of the input and output measures. It is possible, however, that the estimates are valid, and that there is indeed no relationship between inputs and outputs. This would indicate a condition of less than optimum resource allocation, or some over-all programme weakness. For whatever reason, programme resources do not appear to be leading to programme outputs. This raises serious questions for Philippine programme administrators. It is not possible to say at this time whether the problem of no correlation derives from estimating errors or from programme weakness, though subsequent comparative analyses might shed some light on this problem.27/

51. This macro level of analysis can provide administrators with only general indications of how the over-all programme is operating over time. Administrators can gain more detailed knowledge of how their programmes are working by examining the output-input ratio for each individual clinic. This is known as the productivity ratio, discussed in paragraph 25 above. In the following discussion, the focus is on environmental and organizational conditions that are related to variations in the clinic level productivity or efficiency measure.

C. FUNCTIONAL ALLOCATIONS AND PROGRAMME ORIENTATION

52. The financial distribution by the major functions also indicates the basic orientation of the national family planning programme. Again, the Philippine programme appeared to be different from that of the other countries. While their emphasis has been primarily on the provision of contraceptive services, the Philippine programme has invested a considerably large portion of financial resources in motivational activities in order to change the value systems of the Filipinos to be more conducive to the acceptance of family planning. For this purpose, the Philippines was allocating nearly one third of the total financial resources into the information, education and motivation work in 1974. In contrast, Malaysia, the Republic of Korea and Singapore have initiated large-scale motivational activities with the use of mass media only in recent years. Thus, the budget allocated for this function has been relatively small, as can be seen in table 2 and figure 5. On the other hand, they have spent more than 80 per cent of their financial resources on clinic services or supplies.

27/ For a detailed study, see ESCAP *Comparative Study on the Input-Output Relationships in Family Planning Programmes* (forthcoming).

Table 2. Functional distribution of budget for national family planning programmes

	Malaysia[a/]	Philippines[b/]	Republic of Korea[c/]	Singapore[d/]
		(in percentages)		
Clinic service/supply	82.2	35	85.7	83.4
Information/ Education/ Communication	9.8	28	6.9	1.0

a/ Cumulative budget, 1967-1973. Clinic service/supply includes central administration cost.

b/ *Population Commission Annual Report 1973-1974*, pp. 16-17. Data are based on FY 1974.

c/ Cumulative budget, 1962-1972.

d/ Due to lack of data on functional breakdown of budget, figures are based on functional distribution of personnel.

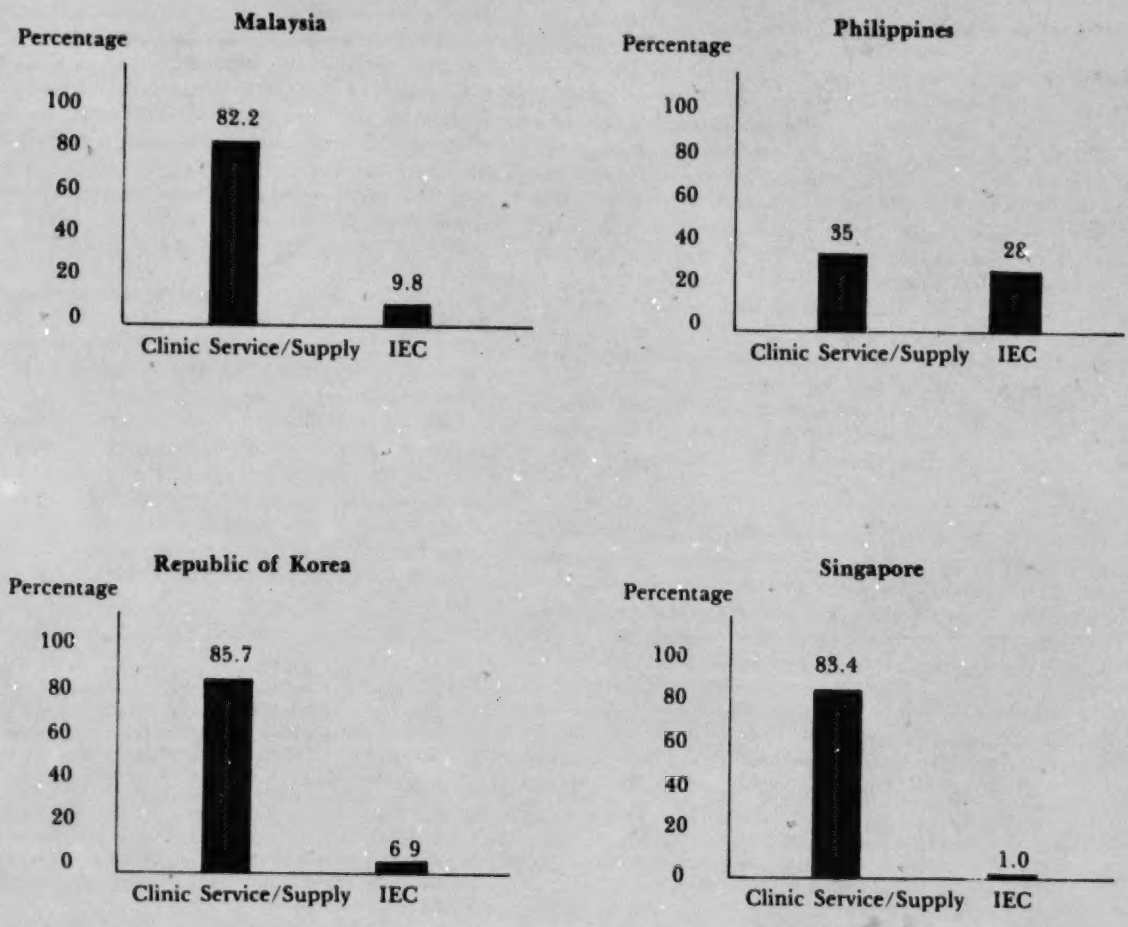


Figure 5. Functional distribution of budget for national family planning programmes

D. ENVIRONMENTAL FACTORS

53. There was a marked contribution of urbanization[28] and population density, which is closely associated with urbanization itself, to the productivity of family planning clinics in the Philippines, the Republic of Korea and Singapore. This is most pronounced in the data on the Republic of Korea. In that country, the productivity of the urban clinics was higher than that of the rural clinics. The average productivity (mean TCYP/SD) for the 10 sample urban clinics was 3.17 while that for the 26 sample rural clinics was 1.68. Consequently, there was a positive and significant correlation between the urban-rural variable and productivity. The point-biserial correlation coefficient was 0.86.**[29] Population density was also found to be clearly associated with productivity in the Republic of Korea ($r = 0.55^{**}$).

54. In the Philippines, too, the urban clinics were more productive than the rural. The mean productivity value for the 18 urban clinics was 6.89 whereas that for the 42 rural clinics was only 2.84. There was also a moderate association between productivity and the degree of urbanization which was measured by the annual income of the municipality or town where the clinic was located. The correlation coefficient was 0.49**. Another environmental variable, population density, was also positively and significantly correlated with productivity. The correlation coefficient was 0.37*. In addition, the proportion of the number of women of reproductive age[30] over the total population had a moderate correlation with productivity: $r = 0.22$ which, however, did not reach .05 significance level.

55. Even in a highly urbanized society such as Singapore, productivity was found to be correlated with population density. The correlation coefficient was 0.51**. As a matter of fact, the Singapore national study found that the clinics located in the areas densely populated with high-rise housing for low income people were more productive than those in less densely populated areas.[31]

56. The high correlation of these various urbanization measures with productivity is generally understandable. Urban areas are more densely settled, thus they have more potential acceptors per individual clinic than do rural areas. Further, the higher population density means that the mean distance between acceptors and clinics will be lower, which should increase the number of acceptors per clinic. Finally, urban areas have higher values of all the "modernization" measures typically found to be associated with contraceptive behaviour. Thus in the urban areas, we should expect a relatively high level of acceptance per staff input. Conversely, the lower density, greater distances between acceptor and clinic, and less "modern" characteristics of the rural population should normally produce lower levels of acceptance for the same staff input. Given this observed and understandable relationship between urbanization and productivity, it was considered that it was usually important to control for urbanization when attempting to identify the determinants of productivity. Thus our sampling procedures were geared to providing such controls in the two cases (the Republic of Korea and the Philippines) where a sample of clinics was used in the study.

57. In Malaysia, a rather complex pattern emerged between productivity and environmental variables, in part due to the ethnic composition of the country. Population density did not turn out to be correlated with the two measures of productivity used in Malaysia, namely, recruitment efficiency (NA/SD), and holding efficiency (Revisits/SD). Urbanization measured by the population size was not correlated with the recruitment efficiency ($r = 0.08$) but was negatively correlated with the holding efficiency ($r = -0.24^{*}$). The proportion of Malays over the total population was not correlated with the recruitment efficiency ($r = -0.4$) but significantly correlated with the holding efficiency ($r = 0.25^{*}$).

58. The absence of a positive correlation between population density and the recruitment and holding efficiency reflects the current programme orientation of the National Family Planning Board (NFPB) to concentrate its services in the rural areas after 1970. This is further substantiated by the significant association between the proportion of Malays over the total population and the holding efficiency. The programme is providing services to the Malays who mostly live in rural areas. In urban areas channels of family planning services other than the NFPB clinics must be providing contraceptive services to their population which is in general non-Malay.[32]

28/ Census definition of urban areas was used.

29/ Since the urbanization variable was based on a dichotomized scale of urban-rural, point-biserial correlation was used. The magnitude of point-biserial correlation coefficient is larger than product-moment correlation coefficient by at least 25 per cent.

30/ Number of women of reproductive age (15-44 years old) was substituted for number of married women of reproductive age (MWRA) which is more common in demographic studies.

31/ See Singapore National Study.

32/ There was a negative association between the proportion of Malays and the impact measure which was measured by active family planning users/MWRA. Although NFPB is emphasizing the rural area as its main target, the negative correlation between the percentage of Malays and the impact measures indicate that the programme impact is less than in the urban areas, in part due to the less developed communication and the existence of traditional social systems and norms which tend to hinder the diffusion of contraceptive technology. Rural areas also tend to lack other sources of family planning information and services which contribute to the over-all fertility reduction, measured by the impact measure.

III. ORGANIZATIONAL RESOURCES AND PRODUCTIVITY

59. The four national family planning programmes provide contraceptive services at the client contact point through an organizational unit which possesses certain physical entities, personnel resources and administrative processes with other organizational units. Such organizational units in the four countries are family planning clinics, which are usually administratively and physically located in the existing health centres or maternal and child health clinics. In this chapter the relationship between the physical, personnel resources and the logistics of the family planning clinic and its productivity are examined.

A. CLINIC FACILITIES

60. The size and physical condition of the family planning clinics were not related to their productivity in the Philippines, the Republic of Korea and Singapore. The lack of positive and significant correlation was in part due to the small variance in the physical facility variables. In general, as a part of the public service programme, the physical facilities of the family planning clinics were standardized in these countries. The family planning clinics in Singapore were mostly well provided with basic facilities except for waiting space and transportation equipment. There were also indications that the quality of physical facilities of the Singapore family planning clinics were essentially uniform throughout the country.

61. The lack of correlation between the physical facilities of the family planning clinics of the Republic of Korea and their productivity may also mean that they were in general well constructed or their facilities were essentially uniform. It may be, however, more due to the basic orientation of the family planning programme of the Republic of Korea to reach the clients through the field workers outside the Health Centre premises. In addition, the actual contraceptive services are provided by the designated doctors in their own facilities.[33] The family planning clinic in the Health Centre functions essentially as a referral point and therefore physical facilities would not be so relevant to the recruitment and holding of family planning acceptors in the Republic of Korea as in other countries.

62. The Malaysian data provided a slightly different picture of the relationship between the physical facilities of the NFPB clinics and their productivity. As in the three other countries, there were no significant correlations between productivity and the physical description and the size of family planning clinics. However, there were significant correlations between the availability of supplies storage for contraceptives and other medical items and performance measured by recruitment capability and contribution to fertility change respectively. The correlation coefficients ranged from 0.31* to 0.42**. Interestingly, the data further showed that the clinics which displayed family planning supplies tended to recruit more acceptors (r = 0.25*).

63. The availability of storage space for supplies and the visibility of contraceptive supplies were interpreted as indicating the general physical conditions of the NFPB clinics in the Malaysian programme context. The NFPB clinics are usually accommodated in the existing health facilities, either maternity wards or hospitals, often borrowing rooms or vacant corners, especially in the case of satellite clinics which are visited by the NFPB staff only periodically. The availability of supply storage suggests the explicit physical location of family planning services. The visibility of contraceptive supplies also clearly demonstrates the availability of family planning services.

B. CLINIC PERSONNEL

64. In addition to physical facilities, family planning clinics have personnel to staff them. There was considerable variation in the size and composition of the clinic staff. Malaysian and Philippine clinics are similar in size, with an average of about six staff members per clinic, but the Philippine clinics usually contain a medical doctor, while relatively few of the Malaysian clinics have a medical doctor on the staff. The average clinic size is greater in Singapore, with 12 staff members, including a medical doctor. The clinic in the Republic of Korea is somewhat unique, since it contains a clinic at the county health centre, with sub-clinics at each township (on the average there are 10 townships in each rural county) or in various urban districts. Taking the health centre as the aggregate, including the township sub-centres, the average size of the staff was about 26. Each county health centre is attended by a medical doctor. In addition, the programme in the Republic of Korea uses private doctors, "designated" and trained by the Government to provide services for IUD insertions and sterilizations. For the health centres in this study, there was an average of four such "designated" doctors per centre. All programmes make use of lay family planning workers, who are trained by the programmes themselves. The Republic of Korea makes the greatest use of such persons, with the "health assistants" constituting about half the average clinic staff. In both the Philippines and Malaysia, "motivators" and "family planning workers" constitute about one third of average staff numbers. Singapore usually has less than 10 per

33/ Taek Il Kim, J. A. Ross and G. C. Worth, *The Korean National Family Planning Programme* (Population Council, 1972), pp. 54-56.

cent of its clinic staff in this type of position.

65. In Malaysia and Singapore there was no relationship between the size of the clinic and its productivity. Obviously something other than mere number of staff members is determining productivity. In the Philippines and the Republic of Korea there was a significant correlation between clinic size and productivity, but the two programmes differ considerably in the direction of the association.

66. In the Philippines, for the 60 clinics covered in this study, there was a negative relationship ($r = -0.33^*$) between number of staff and productivity. That is, the more staff in the clinic, the lower the ratio of acceptors per staff. It is not clear what this means, but there is some indication that it shows a less than optimum allocation of personnel resources. Together with the above reported observation of no relationship between inputs and outputs, this finding tends to support the interpretation of weak resource allocation rather than the interpretation of low validity of the data. Other studies have reported that the number of motivators in the clinic contribute to low productivity by adding numbers to the staff count without adding new acceptors. This arises in part because motivators are often found performing clerical tasks, or in other ways spending their time in the clinics rather than out among the potential acceptors.

67. The data of the Republic of Korea reveal a positive association between clinic size and productivity. On the average, the higher productivity clinics in both urban and rural areas have more total staff than the lower productivity clinics. This is true also for some categories of staff. Thus sheer number of doctors, nurse/midwives and designated doctors are higher in the high productivity clinics than in the low productivity clinics. For the health assistants, however, the picture is more complex. In the urban areas, higher productivity clinics have more health assistants; in the rural clinics there is no difference between the high and low productivity clinics in the number of health assistants. Further, when the health assistants are examined as a percentage of the total staff, this percentage is found to be negatively correlated ($r = -0.39$) with productivity, but only in the rural areas. It appears from this that technical quality of staff for supervision may be an important determinant of productivity. That is, in the urban areas, clinics are well staffed with the more qualified doctors and nurses, who can provide good supervision to the less trained staff. In this situation, the addition of more health assistants brings more acceptors and thus is associated with higher productivity. In the rural clinics, on the other hand, there is a shortage of higher trained doctors and nurses. This shortage itself appears to be related to lower productivity. In addition, this also represents a shortage of high quality supervisory leadership for the less qualified health assistants. In this situation of a relatively weak supervisory base, simply adding more less qualified personnel will not increase productivity: It simply increases staff inputs without proportionate increases in clinic output.[34]

C. PERSONAL CHARACTERISTICS OF STAFF

68. As shown in table 3 and figure 6, there were considerable differences in each country programme in such characteristics as age, marital status and contraceptive behaviour of the clinic staff, but none of these differences was related to productivity. It is interesting to observe this lack of impact of personal characteristics, for it suggests that other conditions, such as organizational characteristics and environmental conditions, affect productivity more. That is, it is not individual characteristics as such that affect productivity, but the way individuals are organized into concerted activities and the general conditions under which they work.

69. When we relax the demands of comparability, however, and examine not the standardized values, but the absolute values obtained in each of the country studies, a slightly different picture emerges, and it is one that probably has greater significance for each of the programmes separately. For Malaysia the duration of contraceptive usage by family planning staff is positively correlated with recruiting and holding productivity ($r = 0.33^*$ and 0.24^* respectively) and each of these variables also explains productivity variance independently when entered in the stepwise regression equation. The amount of education and the months of inhouse training were found to be negatively correlated with productivity, but only inhouse training appears in the stepwise regression equation, predicting some variance in holding efficiency. Thus, training and education are somewhat confusing variables, with no clear impact on productivity. Contraceptive usage, however, is rather clearly and positively related to productivity. This suggests that staff who themselves practise contraception provide better role models and thus are more efficient recruiters and servicers than staff who do not practise contraception.

70. For Singapore, only the proportion of staff using contraceptives is related to productivity. Although the relationship is in the expected direction ($r = 0.25$), it is weak and not statistically significant. There is thus the suggestion of some utility in staff practice of contraception, but it is difficult to be very sure of the relationship.

71. In the Philippines only the sex of the staff is related to productivity, with the proportion female showing a significant positive correlation ($r = 0.31^*$).

72. The data of the Republic of Korea show the most interesting and potentially the most significant set of relationships. Here it is most important to note the difference between rural and urban clinics in the staff characteristics associated with productivity. For the rural

---

34/ For a similar finding, see Commission on Population, "A Study of Input-Output Relationships in the Philippine Family Planning Program." See also James F. Phillips, Aurora Silayan-Go and Aurora Pal-Montano, "An experiment with payment, quota and clinic application schemes for lay motivators in the Philippines" *Studies in Family Planning*, vol. 6, No. 9 (September, 1975), p. 326.

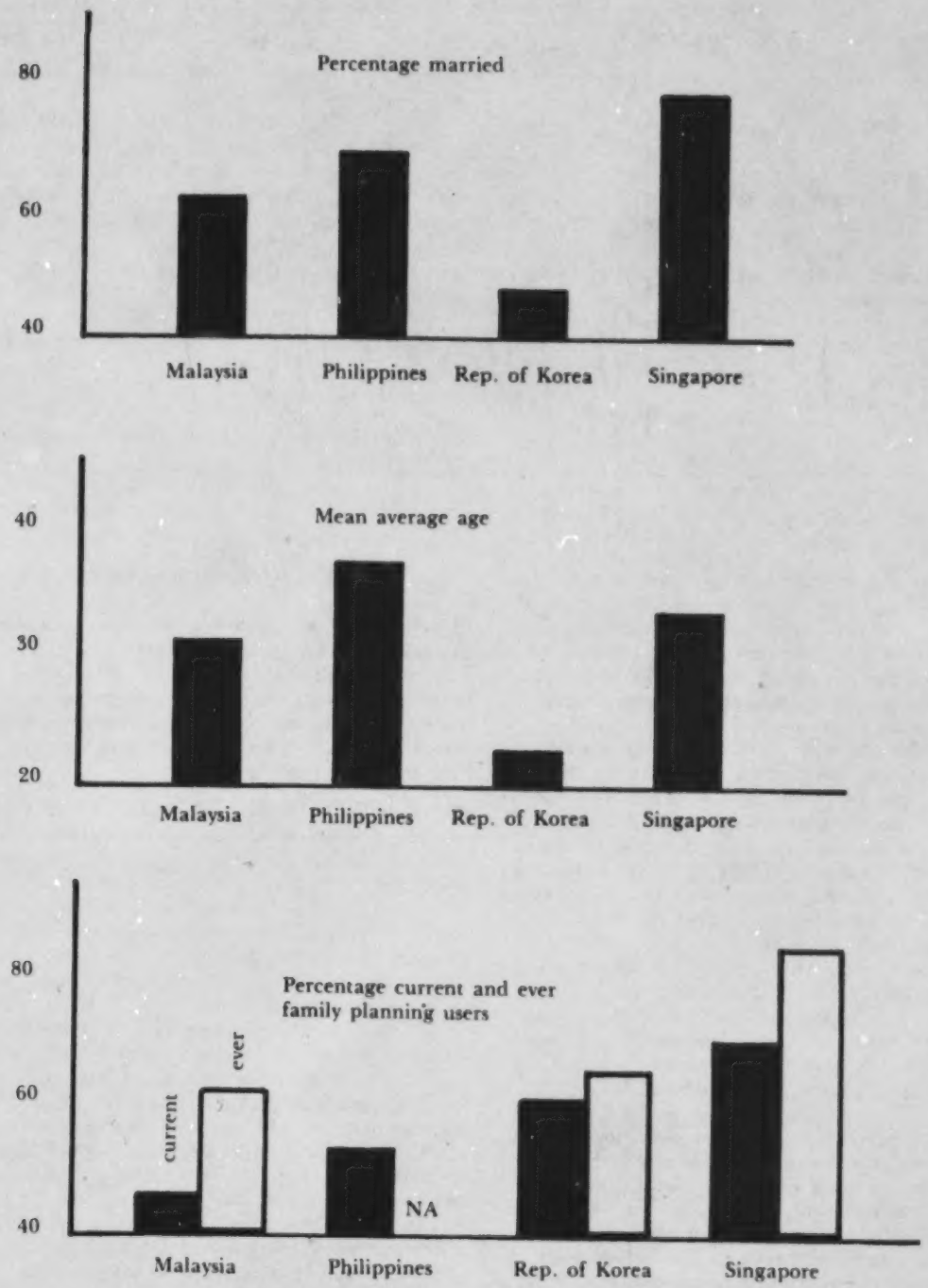


Figure 6. Personal characteristics of family planning personnel

Table 3. Personal Characteristics of family planning personnel

	Malaysia N = 321	Philippines N = 208	Republic of Korea N = 408	Singapore N = 462
Percentage married	61.4	68.4	47.4	78.0
Average age	22.4	37.4	22.6	33.6
Percentage current family planning users	45.8	52.7	61.0	70.0
Percentage of staff who ever practised family planning	62.0	—	65.8	85.0

clinics the proportion of staff over 30 years of age, the proportion practising family planning and the amount of experience both in health centres and in family planning work are all positively correlated with productivity. Marital status, number of children and staff member's personal knowledge of the clients are not related to productivity. For the urban areas, age, marital status, contraceptive practice and health centre or family planning experience are unrelated to productivity. On the other hand, not having children and not knowing the clients personally are positively related to productivity. From this complex set of findings, the study group of the Republic of Korea drew a hypothetical picture of the different personnel requirements for rural and urban clinics.35/ It appears that in the more personalized situation of the rural areas, the most effective motivators are those who can provide an effective role model; thus, being older, practising family planning and having clinic experience are most useful. On the other hand, in the more impersonally market organized urban settings, the most effective staff pattern includes people who are not restricted by age, by having children and by local neighbourhood ties.

73. Finally, except for the urban situation in the Republic of Korea, the one staff characteristic that most consistently shows a positive relationship with productivity is the use of contraceptives. Especially for the rural situation, and possibly beyond this, for reasons that are not entirely clear, staff members who themselves practise contraception provide more efficient service than staff members who do not. The policy implications of this finding are quite clear.

35/ *ESCAP Study on Family Planning Administration in the Republic of Korea: Interpretative Summary*, 1975, pp. 10-16.

D. TECHNICAL BACKGROUND

74. There is another qualitative dimension of the clinic staff which may affect the clinic performance. That is the technical competence of the clinic personnel to perform their expected duties properly. Thus, the study examined the technical background of the clinic personnel in the four national programmes, including their educational background.

75. The Malaysian clinics were staffed with personnel whose average educational attainment was slightly above secondary school level. This, in part, reflects the younger mean average age of the clinic staff in Malaysia. Most of them had nursing or midwifery training and nearly 90 per cent of them received the NFPB in-house training. The Philippine clinic personnel appeared to have received the longest period of training among the four national programmes. The mean average educational attainment was beyond the college level and included post-graduage professional training since about half of the clinic staff were medical doctors and nurses in the Philippine programme. Most of them had family planning training with the mean average duration of 1.9 months. Like the Malaysian clinic personnel, the clinic staff members in the Republic of Korea on the average had an educational background of slightly beyond the high school diploma level, indicating the utilization of less medically-trained personnel. However, nearly half the staff in the Republic of Korea were trained in family planning. The Singapore clinic personnel also had had a few years in professional training, such as nursing and midwifery, after high school education. However, surprisingly, in comparison with the other three countries, only 38 per cent of them had received any special family planning training.

76. Except for the programme of the Republic of Korea, the qualitative differences in the technical backgrounds of the clinic staff did not seem to affect the performance of family planning clinics. In Malaysia, the Philippines and Singapore the aggregated educational and professional backgrounds of the clinic staff were not correlated with productivity. Furthermore, in those countries, the in-house training of the clinic staff did not appear to be contributing to clinic performance. An exception came from Malaysia, where more professional training and in-house training of the clinic staff as a whole were both positively associated with the recruitment efficiency of the Malaysian family planning clinics; however, they were not significantly correlated with the other productivity measures, namely, the maintenance efficiency. This means that good paramedical training, including in-house family planning training, was helpful in motivating clients to go over the threshold of family planning acceptance, but did not contribute to continuation rates.

77. Interestingly, the aggregated educational level of the clinic personnel was negatively associated with clinic productivity in the Republic of Korea ($r = -0.35^{*}$). However, family planning training was positively correlated with clinic performance ($r = 0.35^{*}$). That indicates that the clinics staffed with people who had only midwifery or nursing training after high school education but with basic family planning training contributed to increase clinic productivity. It seems particularly true with the rural clinics. While the lack of training did not correlate with the performance of the urban clinics of the Republic of Korea, it remained negatively correlated with that of the 26 rural clinics ($r = -0.38^{*}$). The negative association between the educational attainment and clinic productivity, however, disappeared when urbanization was controlled for. It suggests that the family planning training rather than the educational background of the clinic personnel of the Republic of Korea was more important for better clinic performance.

E. CONTACT AND SUPPORT

78. The clinic as an organization does not operate in a vacuum. It is set in a larger administrative environment made up of different administrative levels and different specialized organizations. Clinic personnel come into contact with staff from other levels and other agencies. Clinics receive support from other levels in the form of supplies and services and from other agencies in the form of personal technical assistance from other staff. The study utilized two types of questions to discover the extent to which contact with other agencies and support from them affects clinic productivity. Clinic staff in the surveyed clinics were asked the amount of contact they had with other agencies.[36] In some cases this was a general question about all other agencies, in other cases the study directors specified particular agencies and officers. Another question related to the extent to which clinic staff thought they received support from other agencies and levels. It should be noted that these questions do not provide objective measures. They give reported contact and perceived support.

79. Only in the Republic of Korea was there a strong relationship between reported contact and perceived support and clinic productivity. For all clinics the correlation coefficient with productivity was 0.30^{*} for support and 0.21 for contact. The relationship was much stronger in the rural areas, however, with correlation coefficients of 0.58^{**} and 0.61^{**} for support and contact, respectively. For the 10 urban clinics surveyed, the correlation coefficients were 0.51 and 0.50. Clearly, where clinic staff reported more contact and perceived more support from other agencies and levels, clinic productivity was higher.

80. In the Philippines only reported contact with the "mother agency"[37] was correlated with productivity ($r = 0.21^{*}$). Clinic staff reported very little contact with Population Commission officials, or with officials from other agencies. There was considerable contact with the clinic's own mother agency, however, and this seems to be positively related to clinic productivity. Similarly, Malaysia clinic staff report relatively little contact with other administrative or technical officials. They do report considerable contact with MCH staff, however, and this does seem to be mildly associated with productivity. That is, the correlation between the amount of reported MCH contact and the percentage of contraceptive users in the clinic area was 0.27^{*}. There was no correlation with recruitment or holding efficiency, however (new acceptors/staff and revisits/staff). In neither the Philippines nor Malaysia was there any relationship between perceived support and productivity.

81. For the Republic of Korea, another dimension of interagency relations could be analysed. The administrative structure places local agency personnel under a dual channel of command. For example, family planning personnel receive technical commands from the Ministry of Health and Social Affairs, which has supervisory representatives at the provincial and county levels. Local agents are also under the administrative command of the civil administrative service, directed by the Ministry of Home Affairs, which directs provincial governors, county chiefs and township chiefs. At each level the civil administrative head can direct technical agency personnel to perform other tasks on a temporary basis. Thus, for example, the county chief or township chief may ask family planning personnel to assist in short-term activities in health, education, agricultural or revenue programmes.

36/ The Singapore study director decided not to use this set of questions, since the Singapore programme is quite autonomous and it does not face any serious problems in gaining co-operation from other levels or agencies.

37/ The Commission on Population in the Philippines is a co-ordinating and planning body that works through a large number of private and public agencies, such as national and municipal departments of health and private family planning agencies. Clinics are therefore local units of various "mother agencies".

82. Given this situation, in the study of the Republic of Korea local family planning personnel were asked how much time they gave away from family planning to other activities. The amount of time given away could then be related to family planning clinic productivity. The results were surprising and enlightening. For the urban areas the amount of time given away was negatively related to productivity (-.0.26 and -0.35 for two parts of the question). In effect, giving time away from family planning reduced actual inputs, but not reported inputs, thus reducing clinic productivity. Time given away was time lost. For the rural areas, however, the relationship between time given away and productivity was positive (+0.27 and +0.29). (In all cases the relationships are weak, but what is more significant is the reversal of the direction of the relationship.) The hypothesis is that the rural government workers represent something of a personal team of workers, who know one another. Thus when one helps another, some return assistance can be expected. Giving away time thus represents a higher degree of co-operation and assistance among the various agencies, which in turn leads to greater success in recruiting family planning acceptors. The urban scene is one of greater impersonality and differentiation among government workers. Giving time away to another faceless agency does not lead to reciprocity; one receives nothing in return. This will be elaborated upon further, but it is important to note that the different environmental conditions reflected in urban and rural living apparently present different organizational demands on the family planning programme.

F. STAFF ATTITUDES

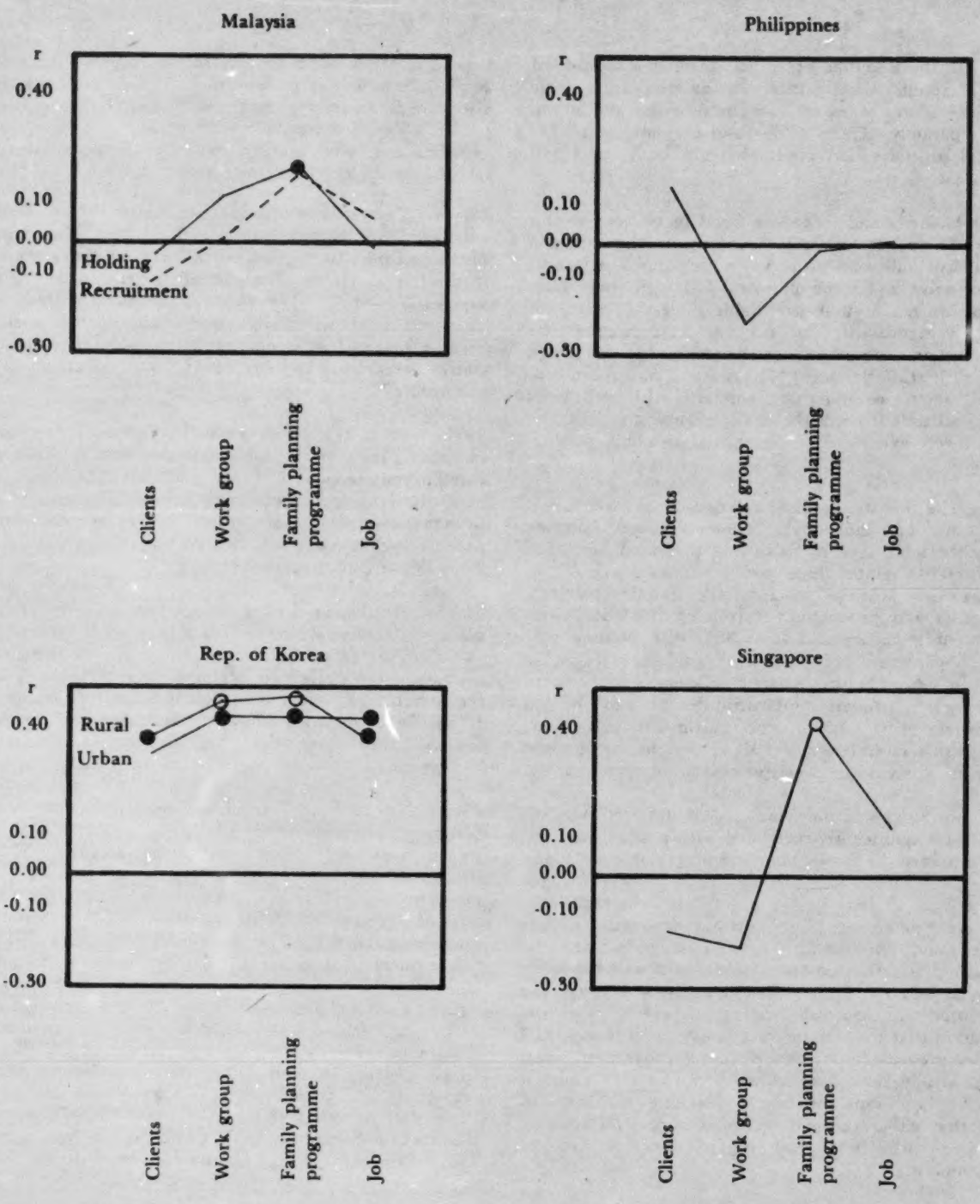
83. The clinic staff members possess certain psychological attributes in addition to such objective characteristics as training and socio-economic position. Certain of the psychological attributes can be described as attitudes towards various aspects of their lives or environment. It has long been thought that the attitudes of organizational members have some impact on the way they perform their tasks. Thus, one theoretical orientation led to the consideration of staff attitudes as determinants of organizational performance. The study design led to the examination of the relationship between staff attitudes and productivity, with the hypothesis that attitudes have an impact on productivity. The social science literature does not, however, unanimously support the hypothesis of simple causation. Particularly in complex organizations, given attitudes may affect behaviour. They may also be themselves determined by the behaviour in the organization. Conversely, the organizational structure may be such that individual attitudes have no impact on organizational outcomes. Finally, given the difficulty in measuring attitudes, there may be little or no relationship between attitude as a stated preference and behaviour.

84. Given the complexities and the lack of clear unanimity in the theory, the issue of staff attitudes was approached in a relatively simple and straightforward manner. The question was simply asked if there was any relationship between staff attitudes and clinic productivity. An intuitively acceptable set of relationships was posited, with a four-part categorization of attitudes. Staff were asked about their attitudes toward the clients they serve, the work group in which they carry out their daily activities, the family planning programme in general, and their specific job. The general proposition was that if staff had more positive attitudes towards those four aspects of their work, they would provide better service and would therefore recruit more acceptors and would more effectivley sustain the contraceptive behaviour of the acceptors they recruit.

85. The results, shown in table 4 and figure 7, are somewhat mixed. In the Philippines, no statistically significant relationships were found between staff attitudes and clinic productivity. Attitudes towards the work group were even negatively associated with productivity, but too much cannot be expounded from this finding, since the relationship was not statistically significant. Even so, it does underscore the complexity of the issue, which was treated here in only a very simple and crude manner.

Table 4. Correlation between staff attitudes and productivity

Staff attitude toward	Malaysia (N = 69)		Philippines (N = 60)	Republic of Korea (N = 36)		Singapore (N = 30)
	Recruitment r	Holding r	r	Urban (N = 10) r	Rural (N = 26) r	r
Clients	-0.111	-0.062	0.146	0.31	0.37*	-0.149
Work group	0.002	0.118	-0.213	0.42*	0.44**	-0.196
Family planning programme	0.179	0.195*	-0.014	0.43*	0.47**	0.402**
Job	0.070	-0.013	-0.013	0.41*	0.38*	0.143



● Reaches .05 significance level

○ Reaches .01 significance level

Figure 7. Correlation between staff attitudes and productivity

86. In the Republic of Korea, the non-standardized data and results directly from the national study were used, since it was necessary to examine rural and urban clinics separately. There were positive relationships between all attitudes and productivity in both rural and urban areas.

87. Malaysia and Singapore stand in between in this analysis. There was little significant relationship between productivity and staff attitudes, with some coefficients being negative and some positive. Although these relationships are not entirely irrefutable since they were not statistically significant, this does at least suggest that under certain conditions, productivity can be high despite poor staff attitudes. Malaysia and Singapore did, however, show one important similarity. In both cases the staff attitude towards the family planning programme was positively and significantly related to clinic productivity.

88. The non-standardized relationship measures presented in the individual country reports provide roughly the same type of finding as presented here, but the observed relationships were stronger. Thus, in Malaysia the attitude towards the family planning programme and productivity correlated ($r = 0.30^*$) with recruitment efficiency and ($r = 0.35^*$) with holding efficiency.[38/] Further, both of these variables emerged as significant determinants in clinic efficiency in the stepwise regression analysis. Staff attitudes towards the job also correlated ($r = 0.28^*$) with recruitment efficiency, although this variable was not significant in the stepwise regression analysis as a determinant of productivity.

89. In Singapore only one type of staff attitude was found to be significantly correlated with productivity: the attitude toward the family planning programme ($r = 0.42$).

90. This analysis does not indicate how staff attitudes are related to clinic performance, but it does suggest some relationship. It also suggests that the relationship is rather complex, and could well use some additional and more sophisticated analysis. Perhaps the most important general finding, however, was the observation that in three of the country programmes staff attitudes towards the family planning programme itself were positively related to clinic performance. Thus, it might be important for family planning managers to ensure that either through recruitment or staff training they give their field staff a high respect for the programme itself.

G. LOGISTIC SUPPORT

91. The family planning clinic as an organization cannot function with the physical facilities alone. It has to receive the logistic support from its central organization regularly in order to perform its expected functions. For instance, it has to be supplied with sufficient and adequate contraceptives and information materials. It has to be adequately staffed with personnel with proper qualifications, who in turn must be compensated adequately for the tasks they perform.

92. The study examines through the subjective evaluation of clinic staff members how the family planning clinics were provided with the necessary supplies in the four countries. The over-all pattern of the logistic support is summarized in figure 8 and table 5. Although direct cross-national comparison would not be justified because of the fundamental differences in the administrative structures and processes, some features were discernible.

93. First of all, only a small number of the family planning clinics in the four countries were experiencing chronic contraceptive shortage and delay. However, the number of clinics experiencing occasional contraceptive shortage and delay was considerable except for Singapore, where no clinic experienced the shortage of or the delay in the contraceptive supply.

94. A slightly larger proportion of the family planning clinics always or usually lacked information materials and also experienced delays in receiving such promotional materials in Malaysia, the Philippines and the Republic of Korea. Singapore was another exception. In all of the countries, however, the clinic staff members felt that they were more often short of transportation equipment.[39/]

95. In addition, except for Singapore, the family planning clinics reported the need for more medically trained personnel. Again, except for Singapore, where this question was not asked, a large number of the clinic personnel interviewed expressed the view that their salaries were not adequate and said they were quite often behind schedule. The inadequacy of and the delay in the payment for their work were reported most frequently in the Philippines and the Republic of Korea. As figure 8 indicates, more than 20 per cent of the Philippine respondents and slightly over 10 per cent of the interviewees in the Republic of Korea experienced frequent delay in their salary payment. Nearly 40 per cent of the Philippine and more than 60 per cent of the clinic staff members of the Republic of Korea reported that their additional financial compensation (travel allowances, living allowances, honoraria, bonuses) was always

38/ See Malaysian National Study. Note that the questions are scored with positive attitudes scored low; thus the negative correlations reported in table 12 show a positive relationship between staff attitude and clinic efficiency.

39/ The shortage of transportation equipment is further compounded by the lack of proper maintenance. According to a study, nearly 30 per cent of 800 jeeps assigned to the Rural Health Units of the Philippines were not running. More than 20 per cent of approximately 400 motorbikes were also not functioning. See a case developed by Peter D. Garrucho, Jr. in his "Alternative Management Programmes for Middle and Upper Level Managers in Family Planning Programmes — An Assessment and Some Recommendations," *Report and Selected Papers of the Expert Group Meeting on the Training in Family Planning Programme Administration*, 9-17 December 1974, Asian Population Studies Series No. 25.

or usually delayed. It is not too difficult to assume that the lack of these fundamental logistic supports to the clinic personnel would be serious administrative constraints to the implementation of the national family planning programmes.40/

96. The situation in Malaysia in this respect appeared to be much less serious than in the Philippines and the Republic of Korea. In fact, only about 37 per cent of Malaysian respondents considered their salaries inadequate and only 23 per cent felt that their additional payments were insufficient.

97. In general, the logistic support patterns indicate that the Singapore family planning programme was smoothly operated, with very few logistic problems. This may be in part due to the highly urban social setting of Singapore and the sheer size of the governmental apparatus. The Malaysian family planning programmes were relatively well run with some logistic problems. In contrast, the family planning programmes of the Philippines and of the Republic of Korea appeared to have more logistic problems. They seemed to be operating with a considerable amount of sacrifice on the part of the personnel at the clinic level. The logistic handicaps may be more detrimental to the Philippine programme than that of the Republic of Korea since the former provided contraceptive information and services through the clinics while the latter relied heavily on the designated doctors rather than the health centre personnel, except for motivational work as discussed earlier. In both countries, however, the inadequacy and the delay in the travel allowance as one type of additional payment were considered to be seriously hindering their national family planning programmes.

98. These logistic problems may be considered especially important, for they represent organizational processes over which the family planning manager should have some control. While many problems may be considered beyond the control of the administrator, he should be expected to have control over the flow of

40/ In the Philippines, the delays were often from three to six months. A recent study of the Department of Health family planning programme through rural health units found that "the late arrival of honorarium and allowances to the clinic personnel affects their involvement in their jobs." See College of Public Administration, University of the Philippines, *Management Audit of the Family Planning Program of the Department of Health* (Report submitted to the Commission on Population, April 1974), area 2, annex E, p. 3.

Table 5. Frequent shortage and delay in clinic resource provision: percentage of respondents always or usually experiencing shortage and delays.

Clinic resources	Malaysia N = 321		Philippines N = 208		Republic of Korea N = 408		Singapore N = 39 clinics	
	Shortage	Delay	Shortage	Delay	Shortage	Delay	Shortage	Delay
Contraceptives	2.6	11.0	3.8	6.1	5.5	4.4	0.0	0.0
Information materials	14.2	15.2	10.0	20.1	—	14.6	0.0	0.0
FP clinic equipment	14.6	15.3	11.4	14.1	53.6	28.8	7.7	7.7
Other medical supplies	7.5	11.4	15.2	17.0	65.6	33.1	2.6	7.7
Transportation equipment	28.8	14.8	43.5	36.2	76.3	56.1	12.8	7.7
Medical doctors	33.8	26.5	20.8	12.0	58.2	44.9	2.6	2.6
Nurses	22.1	16.0	19.8	15.5	33.7	24.6	2.6	2.6
Salaries	36.5a/	8.9	85.9a/	22.6	70.1a/	12.3	—	—
Additional payment (travel allowance, incentives, etc.)	22.7a/	9.9	87.6a/	39.9	80.6a/	63.3	—	—

a/ Inadequacy instead of shortage

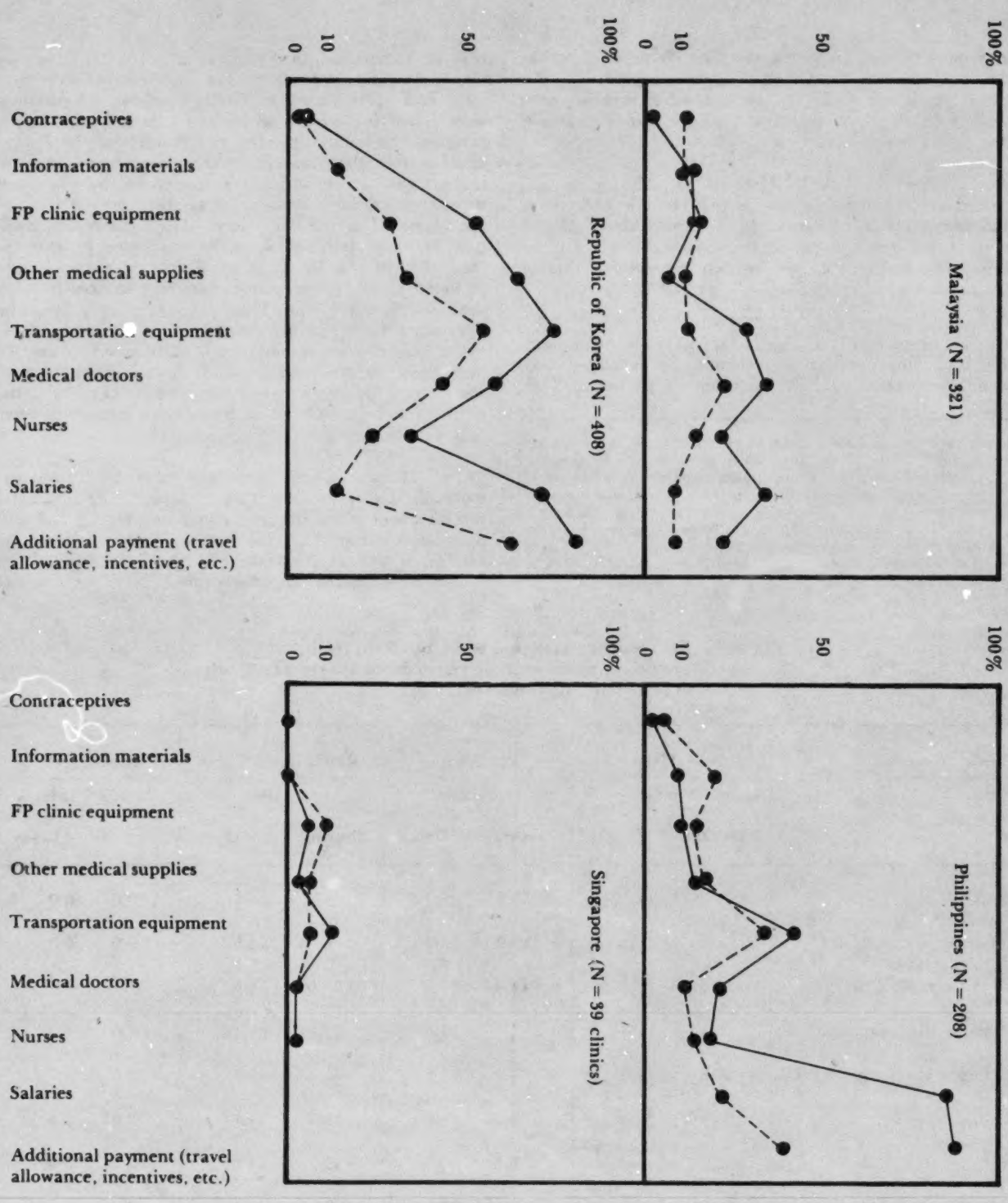


Figure 8. Frequent shortage and delay in clinic resource provision: percentage of respondents always or usually experiencing shortage and delays

supplies, equipment and payments to his staff. Thus, if variables measuring the logistic flow appear to be related to clinic performance, the results should be able to indicate to family planning administrators some very useful and direct action they can take to increase performance.

90. The next question, then, is whether or not the measures of logistic support are related to clinic productivity. Table 6 presents the simple correlation coefficients for the logistic support questions and clinic productivity. The questions were scored so that high scores indicate staff perceptions of shortage or delay: a high score indicates some logistic problem. Thus, if we expect effective and smooth-flowing logistic support to contribute to clinic productivity, we should expect negative correlation coefficients for most of the responses. For the most part we present only the statistically significant coefficients for ease in viewing the table. In a few cases, we have shown the coefficients even when they did not reach the 5 per cent level of statistical significance, because they are rather large and the opposite of what we expected.

100. In Malaysia and the Philippines two things are readily apparent from this table. First, very few of the response patterns to the logistic support questions were significantly related to clinic productivity. For Malaysia, only two of the 48 correlation coefficients reach the 5 per cent level of statistical significance and for the Philippines only 6 of the 24 correlations reach this level of significance. Secondly, there were conflicting findings in both cases: some coefficients were positive, others were negative, and there was little correspondence between the responses to the shortage and to the delay questions. For the shortage of nurses in Malaysia and for the shortage of additional payments in the Philippines, there was a negative relationship with productivity. In these cases the hypothesized explanation holds. But there were positive correlations as well: for travel allowances in Malaysia and for shortage of contraceptives and delays in clinic equipment, medical doctors and salaries in the Philippines. The results are puzzling and admit of two different types of explanation.

Table 6. Correlation between productivity and logistic support: Pearsonian correlation coefficients

Logistic	Malaysia N = 69		Philippines N = 60	Republic of Korea	
	Recruitment	Holding		Urban: N = 10	Rural: N = 26
Shortage:					
Contraceptives	ns	ns	0.50**	-0.28[b]	-0.37[b]
Information materials	ns	ns	ns	ns	ns
FP clinic equipment	ns	ns	ns	ns	ns
Other medical supplies	ns	ns	ns	ns	ns
Transportation equipment	ns	ns	ns	-0.47*	0.02
Medical doctors	ns	-0.04	ns	ns	ns
Nurses	-0.17	-0.24*	ns	ns	ns
Salaries	0.15	-0.12	ns	0.47*	-0.45*
Additional payment[a]	—	—	-0.27*	ns	ns
Travel allowance	0.23*	0.16	-0.18	ns	0.28
Living allowance	ns	ns	-0.24*	ns	ns
Bonus or honorarium	ns	ns	ns	-0.38*	-0.40*
Delay:					
Contraceptives	ns	ns	ns	-0.31*[b]	-0.38*[b]
Information materials	ns	ns	ns	ns	ns
Clinic equipment	ns	ns	0.70**	ns	ns
Other medical supplies	ns	ns	ns	ns	ns
Transportation	ns	ns	ns	ns	ns
Medical doctors	ns	ns	0.29*	ns	ns
Nurses	ns	ns	ns	ns	ns
Salaries	ns	ns	0.31**	-0.42*	-0.48*
Additional payment[a]	—	—	ns	ns	ns
Travel allowance	ns	ns	ns	ns	0.23
Living or maintenance allowance	ns	ns	ns	ns	ns
Bonus or honorarium	ns	ns	ns	-0.37*	-0.41*

[a] Generic term for travel and living allowance, etc.
[b] Opposite sign for correlation coefficients shown in country report due to reverse scoring on response.
ns: not significant.

101. For Malaysia the small number of significant coefficients precludes attempts to construct full explanations or to test the hypothesized relationship. At the same time, the original Malaysian country report did find more consistent relationships:[41] the shortage of medical supplies and of travel allowances was significantly and negatively correlated with recruitment efficiency. Further, each of these variables was selected in the stepwise regression analysis as a significant determinant of efficiency. Thus, at least in the original Malaysian analysis, there was some indication that effective logistic support contributed to clinic performance.

102. For the Philippines the large number of positive correlations requires a different type of explanation. The original theory proposed that good logistic support helps to produce high productivity, but it also assumed that the staff reports of delays or shortages were accurate and comparable across staff, clinics and items. The observation of positive correlations leads us to put forward a different causal relationship. It has already been noted that in the Philippines there was considerable shortage and delay of resources going to the clinics. Thus, the clinic staff may come to expect this pattern of action. It is possible that for the most part clinic staff react to this situation by withholding their own efficiency, thus, over-all efficiency is low. But in cases where the staff do work hard and effectively, that is, where clinic productivity is higher, staff would feel the shortages and delays in supplies more acutely. This is a theory that suggests, therefore, that hard working staff, or high productivity, actually produce staff perceptions of poor logistic support. Everyone expects salary, equipment and doctors to be delayed in arriving at the clinic; but only in the high productivity clinics is this resented, or perceived as a problem. Everyone expects to have a shortage (but not a delay, and this is puzzling) of contraceptive supplies; but only in high productivity clinics is this shortage perceived as a problem. The negative coefficients found with the shortage of additional payments do not fit this explanation. Taken at face value, they could be seen to reflect an accurate perception of a logistic problem. It is, to be sure, unsatisfactory to use two opposing types of explanation for these data, especially since they differ in their acceptance of the accuracy of the reported perceptions of shortages and delays. Nonetheless, the data do suggest that where physical supplies and basic salary items are concerned, a situation may develop in which the over-all weakness of the logistic system comes to be expected and taken as normal. It is possible that this weakness does in fact contribute to the low level of achievement in the Philippine programme. Further, under the condition of this weakness, the staff and units that perform most effectively will feel most acutely the weakness of the logistic system.

103. The data of the Republic of Korea are much more consistent internally and more clearly support the original theory that an effective logistic system does indeed support clinic performance. There were strong negative correlations between productivity and both shortages and delays of contraceptive supplies, salaries and bonus payments. Thus, productivity was lower where staff perceived and reported shortages and delays. The one exception to this rule came in the rural staff reports of shortages and delays in travel allowances. Administrators in the Republic of Korea admitted that this was a rather persistent problem, and they have in fact been working consistently to raise the level of travel payments and to ensure that they flow to the local staff as rapidly as possible. The positive correlation leads to the possible explanation that the problem of travel allowances remains and has come to be accepted by local staff as a given condition. In this case the perception of this as a problem occurred only where staff and units were above average in their total performance, hence the positive correlation. This type of explanation should not be considered as conclusive, especially since the coefficients do not reach the 5 per cent level of significance.

104. It is important to note that in the logistic analysis of the Republic of Korea, urban and rural clinics for the most part showed the same type of relationship. Effective logistic support appeared to be an important contributor to clinic performance in all environments. It was in the rural clinics, however, that there was a positive relationship between shortage and delays in travel allowance payments and productivity. It was expected that travel allowance would be more important in the rural setting than in the urban setting. This supports the proposal that these travel allowance payments are in some sense distinctive, and produce different types of responses from those produced by the other types of logistic support.

105. Again, the data of the Republic of Korea allowed examination in greater detail of the relationship among the various measures of logistic support and contact with other agencies than was done in the previous sections. Ideally, this analysis calls for a multiple regression and path analysis, but these are unavailable at the present time. However, examining sets of correlation coefficients provided some indication of how the various organizational interconnexions work in the rural and urban areas. It was noted earlier that the amount of extra work given away by family planning personnel was positively associated with productivity in the rural areas and negatively associated in the urban areas. The amount of shortage and delay in the logistic system was negatively related to productivity, in both rural and urban areas. Tracing this relationship backward, it was noted that there was also a positive relationship between perceived support and salary or bonus delays in the rural areas ($r = -0.30^*, -0.24^*$) and in the urban areas ($r = -0.67^*, -0.48^*$). The greater the perceived support, the less were the reported delays in salaries and bonus payments. In the urban areas, the amount of extra work given away was negatively associated with perceived support ($r = -0.52^*$), and there was no relationship between the proportion of the staff who were health assistants and either extra work given away or perceived support. In the

41/ See Malaysian National Study.

rural areas, on the other hand, there was a positive relationship between the amount of extra work given away and perceived support ($r = 0.20$), and a negative relationship between the proportion of the staff who were health assistants and the amount of extra work given away ($r = -0.41^*$).

106. This set of relationships is consistent with the following theory. The rural areas have a weaker staffing pattern than do the urban areas. More of the staff are less-qualified health assistants, thus, more of the supervisory work and the work of developing relationships with other agencies is in the hands of less qualified staff. The weaker this supervisory staffing pattern is, the less effective are the relationships or the less co-operation there is with other agencies. Conversely, the stronger the supervisory staffing pattern is, the better are the relationships or the more co-operation there is with other agencies. Given the greater personal character of government administrative services in the rural areas, the more tha family planning staff co-operate with other staff, the more support they receive in turn from the other staff. The more support they receive, the more effective is the logistic support system (i.e. the fewer are shortages and delays) and the higher is clinic productivity.

107. The urban clinics differ in two important respects. First they show a stronger staffing pattern, with a basic core of highly trained staff to supervise and lead the clinic as an organization. Secondly the larger administrative environment in which they operate is more differentiated and far less personal in character. Given these conditions, there is no relationship between the proportion of health assistants on the staff and the amount of extra work given away. Next, there is a strong negative relationship between the amount of extra work given away and the perceived support from other agencies. Giving away work only means that other agencies demand time and energy for which they give nothing in return. Conversely, with no impact on the staffing pattern, giving little time and energy to other agencies means that these other agencies are perceived as supportive. Finally, the perception of support was, as in the rural areas, negatively related to reports of salary delay ($r = -0.67^*$) or of bonus payments delay ($r = -0.48^*$).

108. One implication of this set of findings provides a prescription for organizational strategies. First, the urban and rural areas must be seen to present different demands on the family planning organization. Secondly, a good case can be made in rural areas for upgrading health centre staff and for deliberately fostering co-operative work with other agencies, even if this means giving away family planning staff time to those agencies. What is given away can be expected to be returned with dividends in the form of greater recruitment and more effective servicing of contraceptive acceptors. Finally, for the rural areas, it makes sense to recruit more mature and experienced women to act as field workers; these are the types of women who can present credible role models in the more personal interactions required of acceptor recruitment in these areas.

109. For the urban areas, upgrading staff appears not to be so urgently necessary. Further, it is possible that strategies that protect family planning staff from the demands of other agencies for time and energy will lead to higher productivity. Finally, given the already satisfactory staffing pattern with qualified supervisory personnel, recruiting more less qualified health assistants, and giving preference to younger, less socially encumbered people, who can act as flexible and effective sales persons may provide the most successful strategy for the urban areas.

IV. ORGANIZATIONAL CHARACTERISTICS AND PRODUCTIVITY

110. The family planning clinics are composed of individuals of various psychological attributes and of technical capabilities, as examined in the previous chapter. The present chapter explores how these individuals are working together in the family planning clinics in relation to the performance of the clinics. For this purpose, organizational profiles of family planning clinics were examined through the instrument based on the Likert organizational characteristics scale.42/

111. The scale classifies organizations into four major system types: System 1 — exploitive-authoritative; System 2 — benevolent-authoritative; System 3 — consultative; and System 4 — participative. Likert theorizes that when organizations are participative, they are more productive. While this theory is not necessarily subscribed to, an attempt has been made to determine with this instrument which system in which dimension of the organizational profile is related to performance.

A. ORGANIZATIONAL PROFILES OF FAMILY PLANNING CLINICS

112. Table 7 and figure 9 present the organizational profiles of the family planning clinics in the four countries. The profiles indicate that the family planning clinics in the four participating countries were basically of system 3 in terms of the six organizational dimensions of leadership process, motivational forces, communication, decision-making process, goal-setting process, and performance goals and training. The grand mean scores for the family planning clinics in the four countries ranged from 12.5 to 14.2 on the 20-point scale.43/ Of the four national profiles, the profiles of the Philippine family planning clinics were closest to system 4 while those of the Malaysian and the Korean family planning clinics were farthest from system 4. The difference may be mainly due to the fact that the Philippine and the Singapore organizational profiles were based on the data dealing with the cognition of the supervisory personnel who might have a more positive bias toward participatory orientation in the clinic organization.44/

113. However, in general, the scores for decision-making and goal-setting were slightly lower than those for the other organizational characteristics. It may reflect the inherently limited administrative authority of family planning clinics to make policy and programmatic

42/ Likert, *op. cit.*

43/ The Singapore profile was based on a 4-point scale with the lowest score of 1 instead of 0. For conversion of the scale into the 20-point scale, the following formula was used:

$$Y = -\frac{20}{3} + \frac{20}{3}X$$

X = original score
Y = adjusted score

For comparison of scales, see annex II. The Malaysian Study Directors used a 16-point scale. For the conversion of this scale into the 20-point scale the following formula was used:

$$Y = \frac{5}{4}X$$

44/ Although all the clinic personnel in the sample clinics were interviewed in the Philippines, the data from the interviews with family planning motivators were deleted from analysis because of rather high unreliability of the data. Singapore gathered the organizational data from the supervisory personnel only. This is substantiated by the over-all mean of organizational scores of the family planning clinics of the Republic of Korea as perceived by the supervisory personnel, which is relatively higher than that as perceived by the family planning workers. The figure was computed from annex V of the National Report of the Republic of Korea.

Table 7. Mean organizational profile scores

	Malaysia* (N = 321)	Singapore* (N = 93)	Philippines (N = 208)	Republic of Korea (N = 408)
Leadership	12.9	14.7	15.2	13.5
Motivation	13.7	14.0	15.7	11.9
Communication	13.3	11.3	14.5	14.4
Decision-making	11.9	11.3	14.2	10.8
Goal-setting	11.6	12.0	14.0	9.5
Performance goal and training	11.5	12.0	11.8	15.0
Over-all mean score	12.5	12.6	14.2	12.5

* Adjusted on 20-point scale.

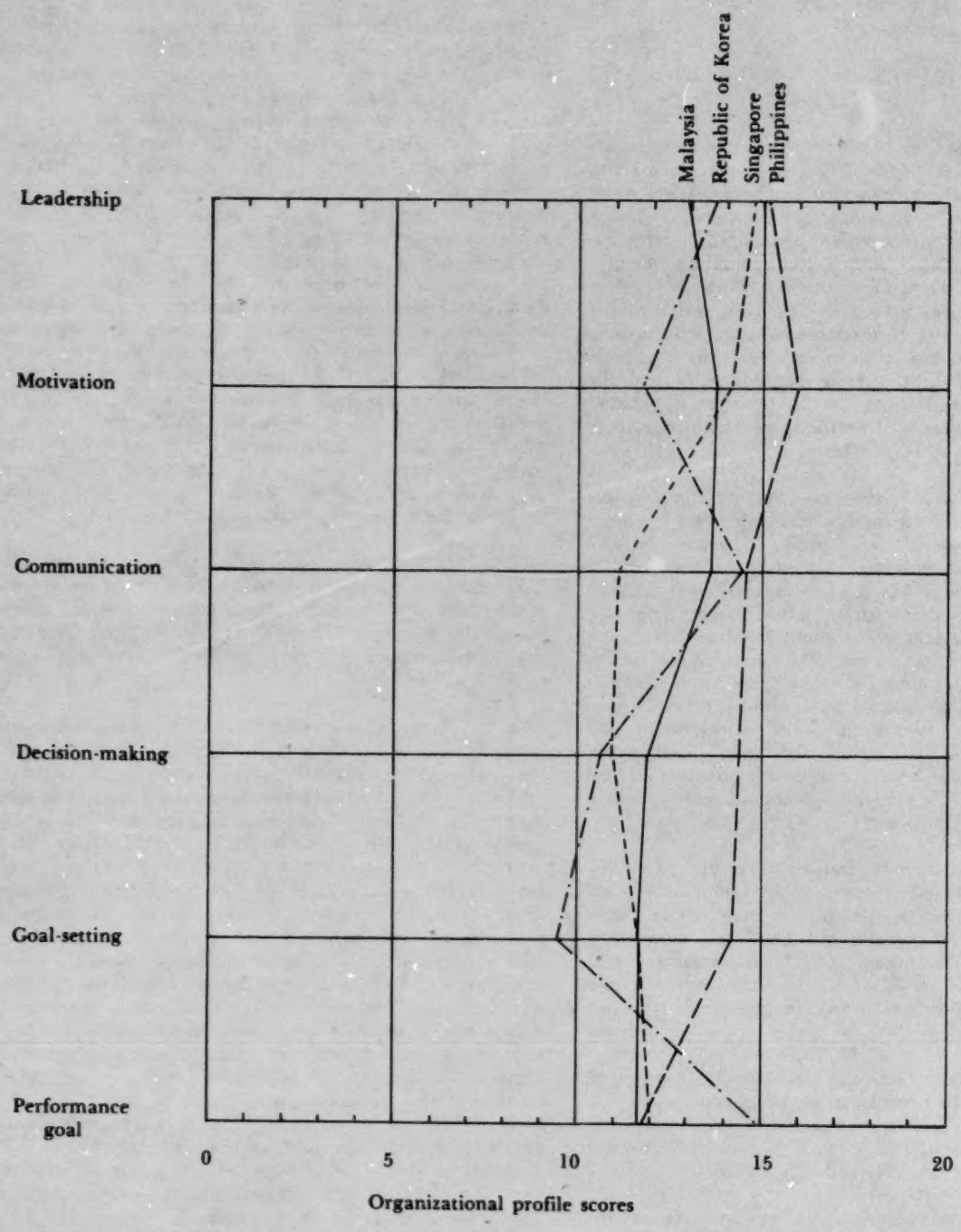


Figure 9. Organizational profiles: Malaysia, Philippines, Republic of Korea and Singapore.

decisions since they are the smallest administrative unit and at the bottom of the administrative hierarchy of the family planning programme.

B. ORGANIZATIONAL PROFILES AND PRODUCTIVITY

114. The organizational profile varied considerably from one clinic to another in the four countries in terms of the six organizational dimensions. The variances mean that the clinics are organized and managed rather differently from one to another although the national profiles present a rather simple and monolithic picture. One of the main purposes of this study was to explore how these differences in the management styles of the family planning clinics were related to their performance. A hypothesis which can be tested is, then, that if a clinic is closer to system 4, it is more productive. Statistically paraphrased, there should be a positive correlation between the organizational profile score and productivity if the hypothesis is to be verified.

115. As shown in figure 10, the variation in the organizational profile among the Philippine family planning clinics was positively and significantly correlated with only one of the six dimensions, namely, goal-setting. Its correlation coefficient was 0.32. The coefficient suggests that when there is more participation of the clinic staff in determining the goal of the clinic, it tends to be more productive. Each clinic in the Philippine programme is given its annual and monthly quota by its mother agency but it can still work out its own weekly target. So the positive correlation between the goal-setting index and productivity probably implies that the participative capability of the clinic staff in redefining the clinic goal set by the central office in the operational sense will help increase clinic performance.

116. The Malaysian organizational profile presented a considerably different pattern of its relationship with productivity from the profiles of the other three countries. There was no positive and significant correlation between any of the organizational characteristics and clinic performance in Malaysia. In fact, one of the organizational indices, performance goal and training, was significantly negatively correlated with the recruitment efficiency measure of 1975. In addition, although the magnitudes were insignificantly small, there were negative correlations between a couple of other organizational dimensions and two of the efficiency measures, namely, the recruitment efficiency and the holding efficiency in 1975, as is discernible in figure 10.

117. The correlation analysis of the data of the Republic of Korea shows that clinic performance was positively associated with the communication and the decision-making process dimensions of the organizational profile. Their respective correlation coefficients were 0.33* and 0.29*. They suggest that the clinic tends to be more productive when there is more two-way communication and information is shared among the clinic personnel. They also indicate that the clinic is more productive when there is more participative decision-making.

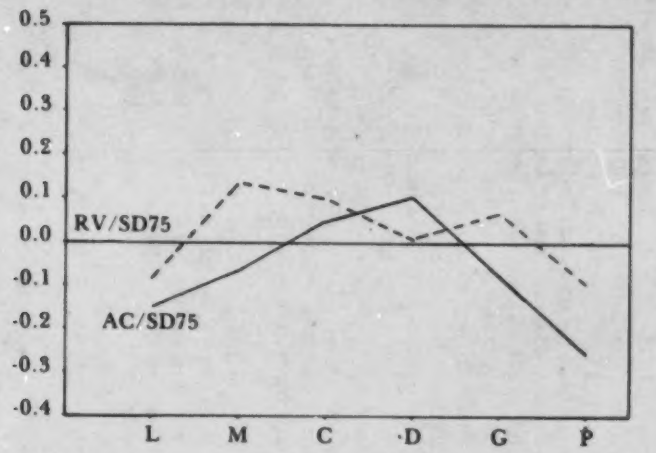
118. The data of the Republic of Korea further reveal the influence of urbanization on the relationship between the organizational style and clinic performance. The significant association between productivity and the two dimensions of communication and decision-making processes disappeared in the urban clinics.[15/] By contrast, among the rural clinics significant association between productivity and communication dimensions also disappeared but the decision-making process index still remained significantly correlated with the clinic performance measure. This may suggest that the urban clinics do not necessarily have to be well organized because of the greater potential demands for contraceptive services from the larger pool of clients while to be productive the rural clinics have to utilize clinic personnel resources more efficiently because of the geographic dispersion of the clients and sociological constraints which are more prevalent in the rural community. As discussed earlier, this point can be substantiated by remarkably high correlations between productivity and population density of the clinic area ($r = 0.55^{**}$) and between productivity and urbanization (point-biserial $r = 0.86^{**}$).

119. In Singapore, only the decision-making process dimension was correlated positively and significantly with productivity. Three other organizational dimensions, leadership, motivation and communication were actually negatively correlated but their coefficients were too small to be significant.

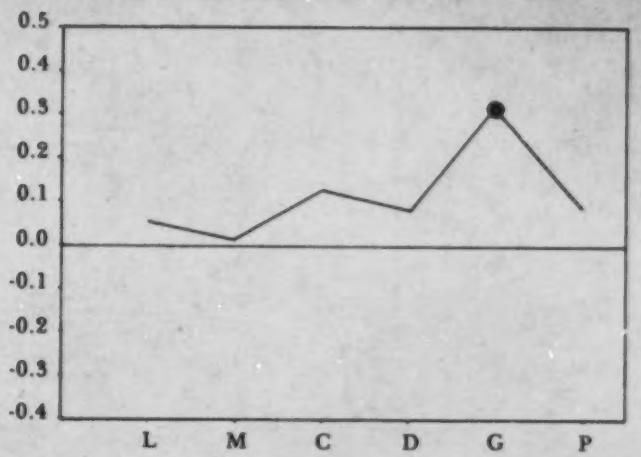
120. The Singapore data seem to support the earlier interpretation of the data of the Republic of Korea that the rural family planning clinics have to be better organized in order to increase their productivity than the urban clinics. For the clinics in Singapore, which is an urban society with a much higher population density, organizational characteristics except for the decision-making process are not critical for their productivity because of the large demands for contraceptive services within a much more administratively manageable spatial distance. This is reflected in the absence of significant and positive correlations between the productivity measured by the new acceptors per staff day (NA/SD) and all of the organizational characteristics, including the decision-making process dimension. It indicates that the Singapore family planning clinics do not have to be more participatively managed (most of them are system 3, consultative type, however) in order to attract more new family planning acceptors because of the large and well-motivated clientele. However, in order to sustain these family planning acceptors, the organizational quality of the family planning clinics is important. The decision-making index was again positively correlated ($r = 0.37^{**}$) with productivity measured by the sum of new and continuing family planning acceptors per staff day (TA/SD). In addition, the goal-setting dimension was

---

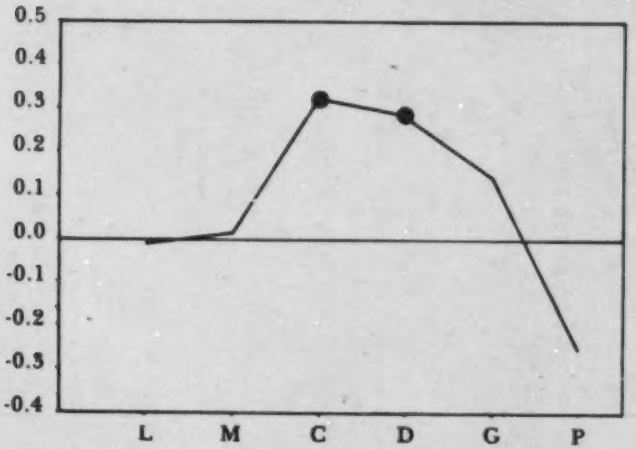
15/ Although the magnitude of correlation coefficients is large, they did not reach even .05 significance level, due to the small sample size of 10 clinics.



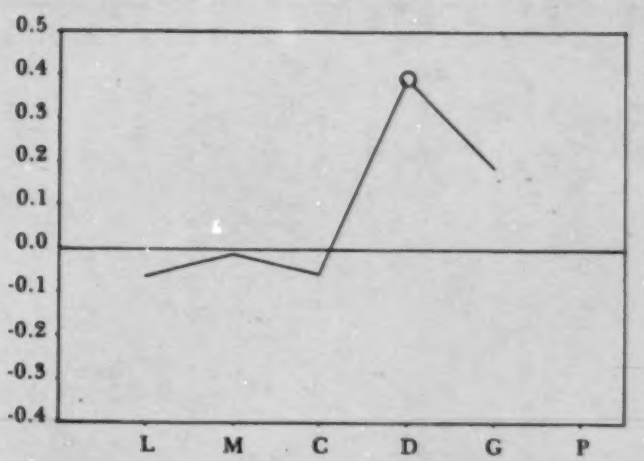
MALAYSIA (N = 71)



PHILIPPINES (N = 58)



REPUBLIC OF KOREA (N = 36)



SINGAPORE (N = 38)

Note:
L : Leadership
M : Motivation
C : Communication
D : Decision-making
G : Goal-setting
P : Performance goal and training

Figure 10. Correlation between productivity and organizational characteristics: Malaysia, Philippines, Republic of Korea and Singapore

● Reaches .05 significance level

○ Reaches .01 significance level

positively correlated with this productivity measure (r = 0.22), indicating that participation of the subordinate in planning the clinic operation is helpful in increasing clinic performance.

121. The analysis of the organizational data from the four countries indicates that not all of the organizational dimensions of family planning clinics should be participative or facilitating the participation of the subordinates in order for the clinics to be more productive. The most contradictory finding to the thesis of Likert is that the leadership quality does not need to be participative in order to increase clinic performance. However, it has to be emphasized that the instrument used in the study measured essentially the interpersonal relationships between the supervisors and the subordinates as well as the personal support of the supervisors rather than technical and administrative leadership in relation to the performance of clinics.46/

122. The simple correlation method used in the foregoing analysis reveals the relationship between productivity and each of the organizational characteristics independently from the others. It does not, however, disclose the relative contribution of the organizational characteristics in predicting the variance in productivity. It is analogous to estimating the weight of individuals with such information as their height, arm length, leg length, chest size, thigh size and age. Through the simple correlation method, we can determine how much each of these physical features are related to the weight. Thus, knowing any one of them helps predict the weight of an individual with varying probabilities. Knowing more than one of them at the same time, however, will help improve the power of prediction. If the knowledge of the height, chest size and age is available, it will predict more accurately the weight than the knowledge of age alone. The multiple regression analysis accomplishes the prediction exactly with multiple pieces of information.47/

123. Thus, the multiple regression method was applied to determine the relative importance of the organizational characteristics in predicting the variance in productivity in the four national family planning programmes. The result of the regression analysis is presented in tables 8 to 11.

124. The result of the regression analysis of the Malaysian data is presented in table 8. It revealed that two of the organizational characteristics, leadership and communication process, had some predictable power of the measures of productivity. However, the association of the leadership dimension in the family planning clinic with productivity was negative and accounted for only 1 per cent of the variance in productivity. Conversely, the communication process dimension was positively associated with the productivity measures and explained slightly more than 7 per cent of the variance in recruitment efficiency and about 5 per cent of the variance in holding efficiency. This suggests that only the participative communication process among the six organizational characteristics will increase the productivity of the NFPB clinics. Thus, knowledge of the organizational profile of a clinic can explain approximately 10 per cent of the total variance in productivity. The coefficients of determination, multiple r^2, were 0.107 for the recruitment efficiency and 0.123 for the holding efficiency.

125. The Philippine data as shown in table 9 disclosed that only the goal-setting variable had a significant predictable power of productivity among the organizational characteristics. The goal-setting index accounted for about 5 per cent of the variance in productivity. Consequently, knowing the management style of the Philippine family planning clinics as assessed by the six dimensions of the organizational profile predicts less than 10 per cent of the variance in productivity as summarized by the coefficient of determination, multiple $r^2 = .074$.

126. Table 10 shows that the regression coefficients for the leadership, motivation, and performance goals and training dimensions of the family planning clinics of the Republic of Korea were all negative and the other dimensions were positive. The communication process dimension of the clinic organization still remained the most important element of the regression equation in predicting clinic performance. Although individually it was important, the decision-making variable became less important among the organizational characteristics. A surprising finding is that the motivation dimension turned out to have a negative regression coefficient whose magnitude was significant. It may mean that, as the negative coefficient of the leadership dimension suggests, the relatively less amiable working conditions may lead to higher clinic performance. The negative regression coefficient of the performance goal and training also suggests that when the clinic staff were more critical of their competence they might be more productive.

127. In contrast to the Malaysian and the Philippine family planning clinics, the data of the Republic of Korea provided more predictability of the clinic performance. The information of the organizational profile would explain nearly 36 per cent of the variance of clinic productivity in the Republic of Korea.

128. The regression analysis of the Singapore data as summarized in table 11 revealed that only the decision-making process dimension had a positive and significant regression coefficient. As in the other countries, the leadership dimension of the Singapore family

---

46/ See for instance, Dae Woo Han, "Leadership and Organizational Effectiveness in the Korean Family Planning Programme" (unpublished Ph.D. dissertation, University of Michigan, 1974), p. 235. It found that "leadership does make some difference in organizational effectiveness while individual personal characteristics appear to have little relationship to organizational effectiveness."

47/ For a more detailed technical discussion, see Mordecai Ezekiel and Karl A. Fox, *Methods of Correlation and Regression Analysis* (New York, John Wiley & Sons, Inc., 1959), pp. 147-203.

Table 8. Multiple correlation and regression coefficients of organizational characteristics and productivity: Malaysia (N = 68)

a) Recruitment measure

Organizational characteristics	B	Beta	Standard error	F
Leadership	−.010	−.237	.006	2.492**
Motivation	−.002	−.071	.004	.244
Communication	.015	.343	.007	4.383**
Decision-making	−.000	−.005	.008	.001
Goal-setting	−.008	−.136	.008	.983
Performance goal and training	.009	.128	.010	.827
Constant = .344				
Multiple R = .328				

B) Holding measure

Organizational characteristics	B	Beta	Standard error	F
Leadership	−.175	−.189	.138	1.604*
Motivation	.031	.045	.098	.100
Communication	.354	.375	.153	5.326**
Decision-making	−.208	−.184	.170	1.497
Goal-setting	−.146	−.120	.166	.775
Performance goal and training	.316	.204	.216	2.148*
Constant = 1.364				
Multiple R = .351				

Table 9. Multiple correlation and regression coefficients of organizational characteristics and productivity: Philippines (N = 60)

Organizational characteristics	B	Beta	Standard error	F
Leadership	−.114	−.277	.124	.838
Motivation	−.078	−.198	.111	.494
Communication	.045	.113	.148	.094
Decision-making	−.055	−.138	.116	.225
Goal-setting	.218	.545	.131	2.760*
Performance goal and training	−.006	−.015	.132	.002
Constant = 3.543				
Multiple R = .271				

Table 10. Multiple correlation and regression coefficients of organizational characteristics and productivity: Republic of Korea (N = 36)

Organizational characteristics	B	Beta	Standard error	F
Leadership	−.075	−.301	.051	2.169
Motivation	−.114	−.348	.064	3.187*
Communication	.191	.672	.064	8.962**
Decision-making	.063	.219	.047	1.772
Goal-setting	.037	.121	.051	.527
Performance goal and training	.065	−.263	.042	2.426*
Constant = .734				
Multiple R = .598				

Table 11. Multiple correlation and regression coefficients of organizational characteristics and productivity: Singapore

(N = 36)

Organizational characteristics	B	Beta	Standard error	F
Leadership	.014	.075	.045	.097
Motivation	−.004	−.020	.046	.007
Communication	−.014	−.070	.040	.116
Decision-making	.041	.286	.038	1.190
Goal-setting	−.023	−.109	.056	.163
Constant = .444				
Multiple R = .222				

planning clinic organization turned out to contribute very little to the prediction of clinic productivity. The motivation and goal-setting indices had negative regression coefficients. However, they were insignificant in predicting the clinic productivity in Singapore. The communication dimension had a positive regression coefficient but it was too insignificant for the clinic performance to be predicted. Knowing the management style, in particular, the decision-making process in the Singapore family planning clinics helps only very little in predicting their performance. This explained only 5 per cent of the variance in clinic productivity as indicated by the coefficient of determination, multiple $r.^2$ of 0.049. It again appears that by these measures organizational characteristics are less critical for urban than for rural clinics.

129. At this point the foregoing analysis must not be considered conclusive. No single dimension of organizational style emerged as clearly negatively or positively correlated with productivity; and in no country was there an unambiguous set of findings. A few tentative generalizations may be hazarded. Participative leadership style was negatively associated with productivity in three of the countries, casting general doubt on the efficacy of a style of leadership that supports personal egos. Communication, decision-making, and goal-setting styles that are participative do, on the other hand, appear to be supportive of productivity. For the most part, however, it does not appear that any of the dimensions of participative organizational styles were clearly supportive of productivity under all or most conditions.

130. It must be remembered, however, that the questions on which this analysis is based were directed at the lower-level workers. It is quite possible that at this level, workers are not very sensitive to variations in organizational styles. It is also possible, of course, that especially at this level, workers cannot be expected to give accurate assessments of the character of the organizational style.

131. Thus, it is possible that the instruments used are effective only in a limited range of over-all administrative processes. They are too crude to be useful in highly efficient and effective systems with few problems in providing service to dispersed populations. They are also too crude to be used in relatively weak administrative systems that are faced with massive problems in servicing highly dispersed populations. On the other hand, the instruments are most useful in identifying specific organizational weaknesses in relatively efficient administrative systems that are faced with the normal range of problems in providing services to normally dispersed populations.

V. SUMMARY AND ADMINISTRATIVE IMPLICATIONS

132. Because of the variance in the political and administrative systems in the countries which participated in the project, it is difficult to make direct comparison of their national family planning programmes. Nonetheless, the cross-national analysis of the data from the participating countries disclosed a number of administrative factors which are related to the efficiency of the fertility control programmes. From the findings of this study some useful inferences can be drawn for the administrators not only in the countries which participated in the study but also in the other countries with similar national fertility control programmes.

133. The review of the programme history and productivity at the national level revealed two basic orientations of the national family planning programmes: a highly value-change orientation and a service orientation. The study found that the value-change orientation was associated with a marked decrease in productivity. Conversely, two countries with service orientations appeared to have increasing or at least constant productivity. Although it is not easy to assume the causal relationships between the orientations and productivity, these findings suggest that the administrator at the central level should reappraise the basic programme strategy, especially in terms of the financial and personnel resource allocation between the service function and the value-change motivational function.

134. The study found that to a considerable extent urbanization and population density were contributing to the clinic productivity in two countries and moderately in one country. In these countries, the clinics in urban areas tended to have higher productivity because of the availability of a more motivated eligible population and a better means of transportation and communication. Malaysia was the only exception to this finding, mainly because of the ethno-political implication of the national family planning programme. This finding suggests that in the rural clinics there should be a different staffing pattern from that in the urban clinics. The rural clinics often tend to be staffed with less qualified personnel than their urban counterparts. The programme administrator should, therefore, try to reduce this urban-rural discrepancy in order to improve the efficiency of the programme. This is necessary particularly because the majority of the eligible population lives in the rural areas where they have less access to other contraceptive delivery systems than the urban population.

135. With regard to the urban-rural impact, perhaps the most important findings of the study are that the two environments often require very different organizational strategies in order to produce the desired performance. Rural populations are dispersed, more homogeneous in their agrarian pursuits and have low levels of productivity, literacy, general health, and general communication in the modern world. In this situation an effective organization must have the capacity to extend outward in a highly personal and adaptive manner. It must be able to provide services that are more personal and persuasive. It must be able to send workers long distances, or in other ways to meet the high transportation costs that are inevitable in a highly dispersed and low density population. Finally, the administrative system of the rural areas appears to be more personal and less differentiated than that in the urban areas. Rural workers know one another more than do urban workers. Thus, there are greater opportunities for co-operation among rural workers in different agencies, and for this co-operation to have an important supportive impact on the family planning programme, as well as possibly on the other programmes. That is, it is possible that the gains from integrating family planning with other programmes, even on the basis of informal co-operation among workers, can be considerable.

136. The urban areas are by definition densely settled, with low transportation costs for any service that seeks to reach its population. Urban populations are also more modern, with high levels of literacy and with greater contact and communication with diverse centres of information. The urban scene is more marketized, implying a more impersonal character in the basic human relations of production and consumption. Further, the administrative system in the urban areas is larger, more differentiated and less personal. People are more accustomed to dealing in impersonal ways with impersonal functionaries: government servants and salespersons. In this situation there are less severe demands on a service organization to extend itself; the costs of transportation to clients are less. There are also fewer demands to provide highly personal sustained interaction between clients and service staff. Although such personal service may be effective, it is also apparent that the highly mobile salesperson, capable of persuading strangers of the merits of some commodity, can also be quite effective in communicating the values of family planning. Finally, there are less stringent demands to co-operate with other government agencies. In the case of the Republic of Korea it is even suggested that there may be few gains to be realized, and even some net costs in lower productivity, in co-operating with other government agencies. That is, while integration of family planning with other government agencies may provide important gains in the rural areas, this strategy may not provide the same gains in the urban areas.

137. Government programmes tend to be mounted in a typical bureaucratic and standardized fashion, with standard tables of organization and equipment and rules for programme processes laid down for all units. The

study has shown, especially in the case of the Republic of Korea, that different environments may well require quite different organizational structures and processes.

138. There were no significant correlations between the staff size of the clinic and its productivity in Malaysia and Singapore. There was a negative correlation between the clinic staff size and its performance in the Philippines but the association was reversed in the Republic of Korea. The pattern of these associations indicates that any additional personnel input into the family planning clinic would not contribute to its productivity, except in the Republic of Korea. In the Philippines, it means that additional personnel input may even lower clinic performance. Therefore, it is suggested that any further increase in the personnel resource at the clinic level should be restrained in Malaysia and Singapore and that a certain amount of personnel reduction (possibly in the category of motivators) be made in the Philippine programme.[48] In the Republic of Korea, it may be recommended that the staff size be increased. However, caution should be exercised as to which personnel category should be added to in order to raise clinic productivity. Indications are that the designated doctors are contributing greatly to productivity and thus an increase in the number of such personnel should be made.

139. Family planning is related to other social services. Consequently the study found that frequent contacts with agencies related to family planning and their personnel, especially at the local level, were contributing to clinic productivity. Contact often implied support from these agencies and their personnel. This was particularly true with the rural clinics in the Republic of Korea, which are administratively under the local government. In Malaysia, too, the contact with maternal and child-health personnel was helpful for family planning. The vertical contact between the mother agencies and their clinics was found to be contributing positively to clinic performance in the Philippines. It may be suggested that lateral contact between other agencies and family planning clinics should be increased in order to improve programme performance. At the clinic level, the clinic chief or other supervisory personnel could organize informal meetings with workers of other agencies. Short-term workshops could also be organized to improve the communication between other agencies and the family planning clinics at the local or operational level. It has to be pointed out, however, that such workshops should invite primarily the workers from those agencies which are relevant to family planning programme activities, in view of the proliferation of seminars and meetings on family planning.

140. In addition to the indirect support from other agencies, the study revealed that the logistic support from the central office of the family planning programme was critical for the efficiency of the family planning clinic. Except for Singapore, the logistic systems of the family planning programmes require substantial improvement immediately. The most serious logistic problem seemed to be the inadequacy and the delay in the payment of salaries and other additional financial compensations for the family planning clinic staff. It may not be feasible to increase immediately the payment to the family planning workers, due to budgetary and administrative constraints in each of the countries. However, the administrator could take appropriate action in expediting the payment of the financial compensation to the family planning workers.

141. The study examined the attitudes of the family planning personnel towards the client population, the peer group, their jobs and the family planning programmes. It found that the positive attitudes towards family planning were contributing to clinic performance. Some attention might therefore be given to this general attitude. Other attitudes are not consistently related to productivity. This would probably imply that unless the programmes are providing adequate logistic support to the clinic personnel, it is useless to try to improve their psychological attributes. It may be suggested, therefore, that efforts to boost staff morale especially through conventional training programmes, be deferred at least until such time as the management of the logistic system is improved. It is highly probable that staff attitudes in general are dependent upon the administrative support they receive from the central office.

142. The analysis of the management style of the family planning clinics disclosed that participative management is not always related to higher clinic performance. Unexpectedly, the participative leadership process was not contributing to the higher productivity of family planning clinics. Less participative but more consultative leadership appeared to increase clinic performance. This implies that a certain amount of supervisory control is essential for higher clinic productivity. There were also indications that the clinic personnel appreciate more administrative support and supervision than personal support. While the less participative leadership is desirable for better clinic performance, the study found that the greater participation of the clinic personnel in the communication and decision-making processes within the clinic was contributing positively to clinic productivity. It is suggested, therefore, that the clinic chief encourage the increase in the sharing of information horizontally and laterally and solicit the participation of his staff in making operational decisions.

143. As was discussed in Chapter II, the organizational factors examined by this study only partially explain the variance in clinic performance.[49] However,

48/ The Department of Health reportedly reduced the number of its family planning motivators by nearly 2,000 in 1975. This is expected to increase the efficiency of the Department's clinics.

49/ A regression analysis of the data by the ESCAP secretariat shows that all the relevant variables and indices included in the study explain 55.1 per cent of the variance in the recruitment efficiency of the Malaysian clinics; 43.7 per cent of the variance in the productivity of the Philippine clinics; 65.9 per cent of the variance in the productivity of the Singapore clinics; and 62.9 per cent of the clinics in the Republic of Korea.

it is hoped that the assessment of those factors will help administrators in improving their family planning programmes through such efforts as direct administrative reorganization based on the findings from this study and an increase in the administrative capability of the clinic managers.

144. Finally, it may be asked how useful are the analytical instruments that have been used and how much benefit other programme managers can expect to derive from them? The answer, of course, is that the utility of the instruments depends on many factors and this study has pointed out some of the more important determinants. There is a clear indication, especially from the regional comparative analysis, that environmental conditions not only have a strong impact on administrative processes, but also have an important impact on the utility of the instruments used in the study.

145. In one sense, the greatest success in the analysis is found in Malaysia and the Republic of Korea where the largest number of administrative characteristics were related to programme performance, or efficiency. Furthermore, plausible explanations could be constructed for the correlations found; and these explanations were also found to make sense to the individual programme administrators. In both Singapore and the Philippines, relatively few correlations were found, and no real recommendations could be made to administrators on the basis of the findings.

146. One further set of findings is relevant here. In Singapore there was the lowest level of reported logistic or administrative problems. In the Philippines the reported level of problems was the highest for the four countries. The Republic of Korea and Malaysia lay between these two extremes.

147. Finally, the over-all environmental conditions of the four countries show a pattern of variance closely associated with the above two patterns and it can be inferred that the instruments used for programme analysis are most useful in the middle ranges of environmental constraints. In countries where environmental conditions permit a relatively easy solution of basic logistic problems, the measures of programme efficiency and its determinants will be most useful. In countries where high density and cosiderable wealth provide the most favourable environment for any public service programme, the instruments are apparently too crude to identify the organizational determinants of programme efficiency. Similarly, where low density and little wealth present extremely difficult environmental conditions for public service programmes, the instruments are perhaps too refined to identify the organizational determinants of programme efficiency.

148. Thus, programme administrators in these middle levels of environments, where the density and wealth constraints are neither too overwhelming nor minimal, should be able to use the instruments with good results. In these cases, the simple over-all measure of inputs and outputs, with its derived efficiency measure and the direct assessment of relatively simple organizational process (such as logistics and interagency contact and support) should permit important organizational problems to be identified for corrective action. Where the environmental problems are either massive or minimal, it seems quite likely that other instruments should be developed.

Annex I
THE STUDY ADVISORY COUNCIL

INTRODUCTION

One of the two aims of the study was to make the research findings directly useful to family planning programme administrators. In order to ensure this, some structure would be required to involve administrators in the study throughout its entire course. For this purpose, it was decided to create a Study Advisory Council (SAC) for each country participating in the study. For this comparative study, a standard research design was applied to all participating countries. Since each country programme differed considerably, the standard research design was adjusted in each participating country to fit the specific programme conditions in that country. SAC appeared to provide the most effective mechanism for achieving this adjustment.

THE IDEA AND THE STRUCTURE

The central idea of the Council was to use academic researchers to provide the technical skills needed for the research, but to have the research guided by a small group of knowledgeable administrators who would adapt the standard study design to the individual country, oversee the research as it progressed, and review the research findings, with the aim of identifying their programmatic implications. It was felt that this process would also ensure that the specific questions addressed in the research would be relevant to the programme administrators. Finally, it was hoped that this procedure would make the work of the researchers more efficient, since knowledgeable administrators would be guiding their actions, and that this would provide an effective link between academic researchers and programme administrators.

Figure 1 presents the basic composition of the Council. In general, the head of the family planning programme was asked to chair the Council. The country study directors, in most cases selected from academic institutions, acted as the executive secretaries. The study directors were given the responsibility of organizing SAC and recruiting its members. A relatively small Council was considered most appropriate, with from six to eight members. This would permit active interchange and full participation of all members in the Council meetings. Members were drawn from roughly section chief levels, from two to four steps below the ministerial or permanent secretary levels. These were to be the officers who review proposals designed to implement policy, and those who draft the briefing memos for division chiefs and ministerial committees on programme requests. It was considered in all cases important to include officers from finance, personnel and health, with additional officers selected on the basis of their relevance for the direct operation of the family planning programme in each country.1/ The heads of the evaluation and clinic service units were invited to SAC meetings as technical consultants.

The research budget provided for honoraria to be paid to members for attending SAC meetings. Meeting costs, conference rooms, meals and some travel allowances were also provided for in the research budget. The level of the honorarium for each meeting was approximately equal to one day's salary for the members. During the first phase of the project (1973-1974), ESCAP invited some of the SAC members to its travelling seminar on the administration of family planning programmes in a few ESCAP countries, in order to help them understand the administrative issues involved in fertility control programmes. It was also to increase further the communication among those SAC members.

The number of meetings held varied, but the project envisioned from six to eight meetings over the course of the year's project. Two or three meetings held in the first two months permitted members to plan the over-all project and examine the details of the research instruments. For about the next six months, while data were being collected, one or two more meetings could keep members abreast of progress. Finally, SAC would meet twice in the final two or three months to consider the research findings and discuss how they might be translated into their programmatic implications. In some cases an additional meeting was held in the field to acquaint all members with the actual field operations. As concrete examples the actual schedules of SAC meetings in Malaysia and the Republic of Korea are presented in figure 2.

ASSESSMENT: SUCCESS

Both the ESCAP secretariat and the country SAC members considered the exercise a considerable success. The first indication lies in the fact that members took their tasks seriously. They began with an initial scepticism, but soon became interested and involved collaborators in the research project. Meetings were held on schedule and attendance was excellent throughout. In two cases members looked for additional tasks that could continue what apparently had become a satisfying experience. More specific indications of success lay in the advantages for the research, the benefit to administrators, the benefit to the family planning programme and the breakdown of bureaucratic barriers to inter-agency communication.

The advantages for the research itself were imme-

1/ Names and positions of SAC members for each country project are listed in appendix 1.

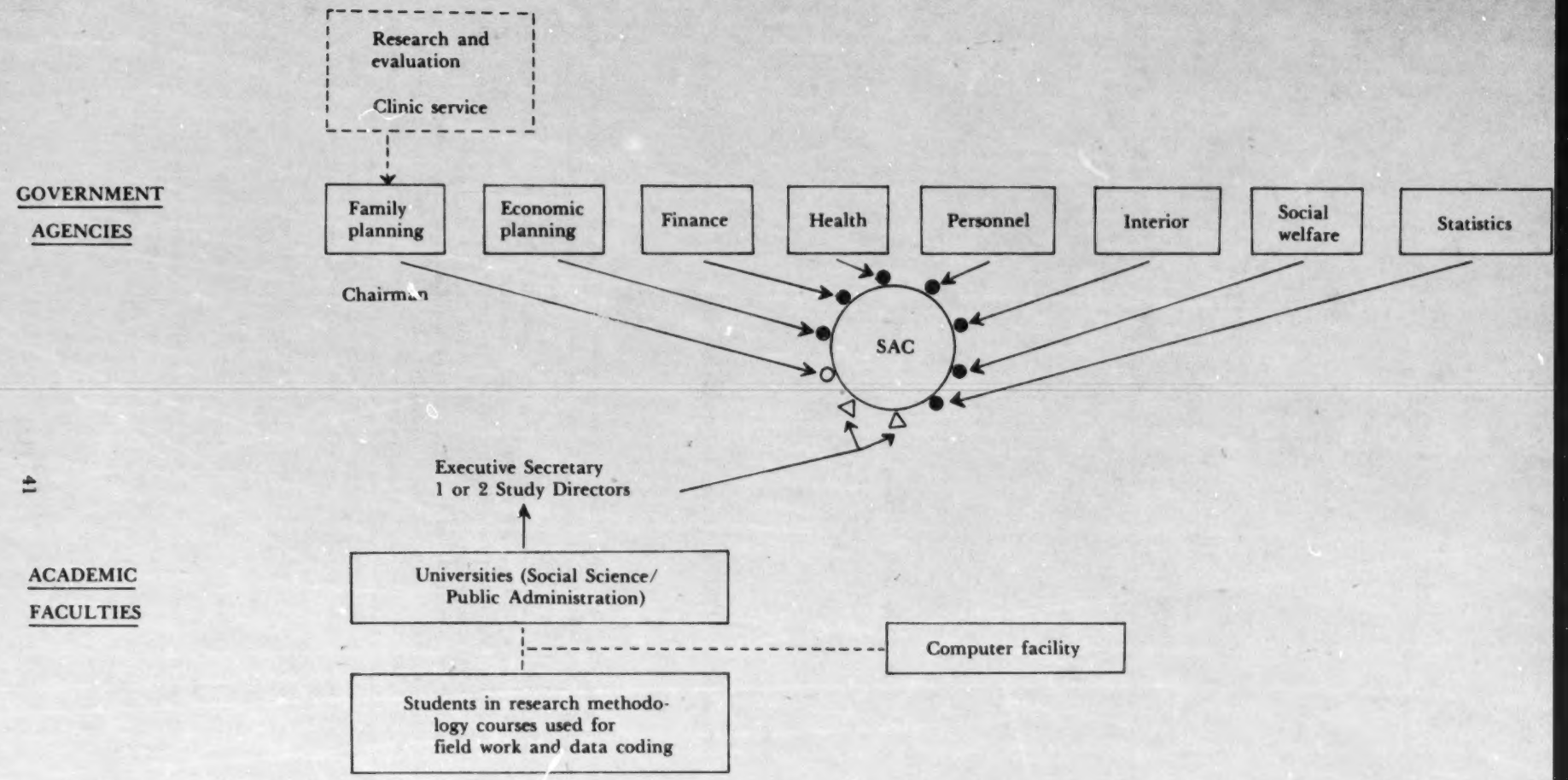


Figure 1. Structure and Composition of Study Advisory Council

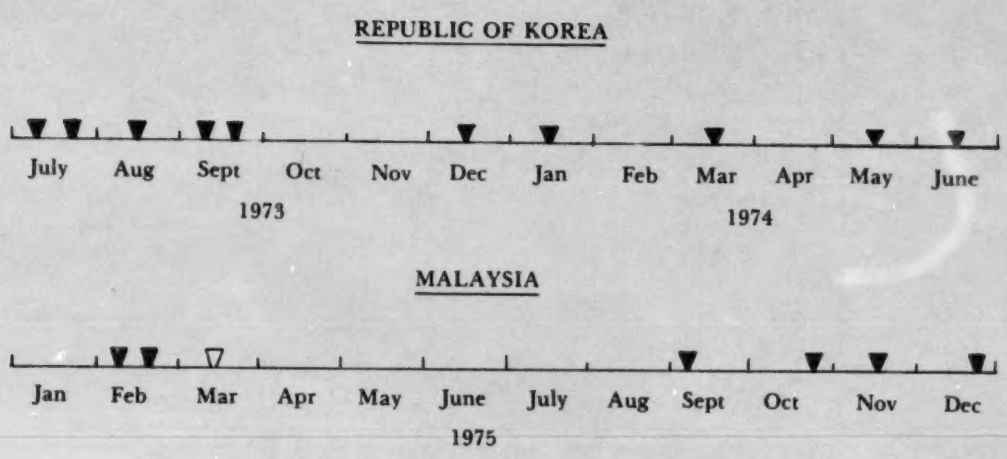


Figure 2. Schedule of SAC meetings in Malaysia and the Republic of Korea

diate and significant. Researchers gained ready access to important data sources, both from the family planning programme itself and from other government departments. Administrators helped point out what various accounting categories meant, which output (acceptors) and input (staff and staff days) would be most useful and readily available, what would be the most appropriate units of analysis, and what would be the most useful questions to ask from the administrators' point of view. In one case delays were avoided as a member from the local administration gave the necessary permission for researchers to establish field survey sites. The inclusion of the director of the family planning programme provided participants with direct access to all clinics and local operating units.

The researchers gained a sense of real satisfaction from working on a research project that had direct access to programme administrators. Less easy to measure, but no less significant, was the fact that the researchers gained a deep appreciation and understanding of the daily problems and pressures that administrators faced. The researchers also found it advantageous to be able to train their students in research and analytical techniques by involving them in real and significant social research.

Administrators also benefited in a number of ways. They gained some real appreciation of the hair-splitting difficulties and the demands of careful control that researchers always face. Being involved in the research decisions, they did not have that sense of threat that often accompanies research done by an outsider whose sympathies and knowledge are always unknown and uncertain. They also found that good systematic research can often be quite supportive, as it can make a hard case for something the administrator knows by experience is an important element in determining programme success. When research demonstrated clearly and statistically to a member from the Treasury Department that increased funding can actually decrease the costs of recruiting acceptors (which was the case in the Republic of Korea) the value of research to the administrator is clearly enhanced. Further, when research can be used to check hunches and impressions, showing which are more likely to be the correct ones, the administrator learns how to use social science research to answer his questions.

For the family planning programmes, the research demonstrated that simple and readily available measures of performance can be effectively used to identify specific strengths and weaknesses. In Malaysia, the research showed clearly that sheer physical facilities in the clinic make a great deal of difference in levels of performance; in the Republic of Korea it showed that urban and rural differences indicate that different organizational strategies are required in different areas. These were findings directly relevant to the programme and concerned elements over which the administrator had some direct control. The sum of these benefits is to be found in the clear programmatic implications that can be identified from the research findings in each of the country programmes.

Finally, the exercise provided a partly unexpected bonus in helping to break down the bureaucratic barriers that typically grow up between specialized agencies. In the Republic of Korea the member from the economic planning agency gained for the first time a clear understanding of the needs of the family planning programme and then assisted in outlining an effective strategy for presenting the next five-year programme budget. Here smooth co-operation replaced what had previously been a poker game of betting and bluffing that took much time and effort on the part of both family planning and finance officers.

AN ENLIGHTENING EXCEPTION: SINGAPORE

Singapore's experience provides an enlightening exception to the experience of successful use of the SAC strategy. For all practical purposes Singapore did not utilize the procedure. The reason was simply that there was no real need for it. SAC was designed to bridge the gaps between different agencies and functions created by the pervasive process of specialization. Given its small size, and the close personal communication between its agency officials, Singapore really did not experience significant gaps between agencies. Relations with the Finance Ministry, for example, have been marked by a clear, rational, instrumental interaction in which both sides rather fully understood and communicated with one another. Further, there was no real gap between researchers and administrators in this study, since it was carried out within the National Family Planning and Population Board itself by the Board's own research staff.

The over-all experience thus demonstrates that the SAC strategy can be quite useful in bridging the gaps of specialization. Where such gaps do not exist, there is little reason for using it.

GUIDELINES FOR SUCCESS

From the experience gained it is possible to identify seven major elements that are crucial to the successful use of the SAC strategy. These can be stated boldly as guidelines for successful implementation. They are stated here frankly, but it should be recognized that the successful implementation of the strategy will depend upon making a sensitive adjustment of the procedure to the realities of any given situation. It may be that not all of the guidelines will be applicable in all cases. Thus, the following should be seen merely as guidelines and not as firm rules that must be followed mechanically. Further, the guidelines are essentially stated from the perspective of the research function initiating the interaction. One could undoubtedly begin from the perspective of the administrator as initiator, but that was not the perspective from which this specific experience developed.

1. *Recruit competent researchers.* Social science research requires specialized technical competence, which comes from specialized training and experience. If it is to be useful to administrators, research must be well done. If the initiative for the interaction is to be placed in the hands of social science researchers, as was done in this case, it is imperative that they be experienced and competent.

2. *Select researchers with diplomatic skill.* In recruiting administrator-members, the researchers must use all the diplomatic skill they can muster. They must approach administrators as colleagues whose assistance they are requesting. Initial approaches to potential SAC members are best made on the basis of positive informal relations. Thus, researchers may make personal contacts with their acquaintances in operating agencies, or may solicit introductions to personal acquaintances of their academic colleagues. The informal contacts should be made to gain the agreement of potential SAC members to take part in the exercise. Following this informal agreement, the researchers should obtain formal agreement of the member's supervisor by letters requesting the assistance of the specific person identified.

3. *Time and patience are required.* In organizing SAC, researchers should be prepared to put in a considerable amount of time and effort to make contacts, visit prospective SAC members frequently to explain the project and win their support by persuasion. It cannot be over-emphasized that this requires time and patience. Making appointments with busy administrators, whose own schedules are often suddenly disrupted by the demands of their ongoing tasks, cannot be done quickly. The researchers must be aware of the great demands on the administrators' time and must work patiently through the delays that inevitably attend the initial formation of contacts.

4. *The research budget should provide incentives.* The research budget should allow for an honorarium equal to about one day's salary plus the cost of a meeting. This tells administrators indirectly that their time and effort are valued. Reflecting good diplomatic skills, the researchers are also saying that this is merely a token of their appreciation for the assistance of the administrators. Consideration should also be given for including SAC travel costs in the research budget. In some cases, it can be very useful to have SAC meetings away from the regular work place and closer to the actual field operations.

5. *Keep the Study Advisory Council small and operational.* The optimum size of the Council seems to be from five to eight members. Members should be drawn from key agencies, such as finance, economic planning, personnel, and health, plus other agencies whose actions are critical and directly relevant to the family planning programe. The optimum level appears to be two to three steps below the ministerial or permanent secretary level — people who review programme proposals designed to implement policy, and who draft the briefing notes for division chiefs and ministerial offices.

6. *Use participative planning.* The first meeting should be used to introduce the general aims of the research and the idea of SAC. Then the members should plan collectively how best to schedule activities to make the project successful. It was found that for a one-year project six meetings were about the minimum. Two meetings in the first three months may be used to plan the project and consider the research design and instruments in detail. Over the next six months of data collection and initial analysis, two additional meetings may be held to keep the members abreast of the project. In the final three months of analysis and writing a final two meetings may be used to consider the research findings in detail and to work out their programmatic implications.

7. *Make meetings pleasant and constructive.* Dinner meetings are useful to provide a relaxed atmosphere, giving members an opportunity to become personally acquainted with one another outside the normal routines of office work. Agendas should be carefully prepared, with good staff work by the researchers. Brief notes prior to the meeting and summary minutes after the meeting should be sent to members. It may also be useful to send brief notes to the members during the longer period of field work, to keep them advised of progress. Telephone calls and other personal contacts should be made whenever researchers find they need assistance. Using the skills of the administrators actively is useful for the research and helps increase the administrators' sense of involvement.

Finally, the ESCAP secretariat found that when the experience of the Study Advisory Council is successful, both administrators and researchers desire to continue their contacts, and often plan further research and action projects to keep the Council going after the research project is completed.

Appendix

STUDY ADVISORY COUNCIL MEMBERS

MALAYSIA

Chairman:

Dr. Shamsuddin bin Abdul Rahman
Director-General
National Family Planning Board

Members:

1. Mr. S. Sockhanathan
   Director-General
   Department of Social Welfare
   Ministry of Welfare Services

2. Mr. Mohd. bin Yunus
   Deputy Director-General
   Economic Planning Unit
   Department of the Prime Minister

3. Mr. Jaafar bin Awang
   Senior Assistant-Director of Budget
   Ministry of Finance

4. Dr. Norlaily bte. Datuk Abu Bakar
   Representative of the Director of Health Services
   Ministry of Health

5. Mr. V.T. Palan
   Senior Statistician
   Department of Statistics
   Ministry of General Planning and Socio-economic Research

6. Mr. Abbas bin Rashid
   Section Head
   Family Development Programme
   Ministry of Agriculture and Rural Development

Technical Consultants:

1. Dr. M. Subbiah
   Director of Services
   National Family Planning Board

2. Mr. Tan Boon Ann
   Director of Research and Evaluation
   National Family Planning Board

PHILIPPINES

Chairman:

Professor Raul P. de Guzman
Dean
College of Public Administration
University of the Philippines

Members:

1. Dr. Rafael Esmundo
   Executive Director
   Commission on Population

2. Dr. Flora Bayan
   Executive Director
   National Family Planning Office
   Department of Health

3. Mr. Ramon Eduarte
   Executive Director
   Family Planning Association of the Philippines

4. Mrs. Perla Sanchez
   Director
   Institute of Maternal and Child Health

5. Mr. Jaime C. Laya
   Deputy Director-General
   National Economic Development Authority

REPUBLIC OF KOREA

Chairman:

Dr. Kyong-Shik Chang
Section Chief of the Family Planning Programme
Ministry of Health and Social Affairs

Members:

1. Mr. Seung Whan Lee
   Section Chief of the Third Investment
   Economic Planning Board

2. Mr. Woo Hyok Kang
   Section Chief of Urban Guidance
   Ministry of Home Affairs

3. Mr. Byung In Whang
   Section Chief of Organization and Management
   Ministry of Government Administration

4. Mr. Eung Ik Kim
   Section Chief of Evaluation
   Korean Institute of Family Planning

5. Dr. Sung Kyu Ahn
   Section Chief of the Family Planning Programme
   Ministry of Health and Social Affairs

6. Professor Shin Taek Kang
   Associate Dean
   Graduate School of Public Administration
   Seoul National University

7. Mr. Ho-Youn Kwon
   Senior Programme Co-ordinator
   United Nations Fund for Population Activities in the Republic of Korea

SINGAPORE

Chairman:

Dr. Wan Fook Kee
Chairman
Singapore Family Planning and Population Board

Members:

1. Dr. Saw Swee Hock
   Chairman
   National Statistical Committee

2. Dr. Margaret Loh
   Executive Secretary
   Singapore Family Planning and Population Board

3. Dr. D. I. Pakshong
   Senior Health Officer
   Maternal and Child Health Services
   Ministry of Health

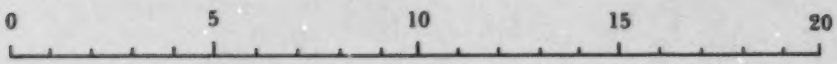
4. Dr. A.S. Lee
   Assistant Executive Secretary
   Singapore Family Planning and Population Board

5. Dr. Chen Ai Ju
   Head
   Research and Evaluation Unit
   Singapore Family Planning and Population Board

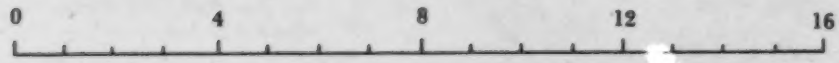
Annex II

CONVERSION OF SCALES FOR THE ORGANIZATIONAL CHARACTERISTICS DATA

SINGAPORE



REPUBLIC OF KOREA
AND PHILIPPINES



MALAYSIA

$$Y = -\frac{20}{3} + \frac{20}{3} X \quad \text{(SINGAPORE)}$$

$$Y = \frac{5}{4} X \quad \text{(MALAYSIA)}$$

THE ESCAP *ASIAN POPULATION STUDIES SERIES*, AND RELATED PUBLICATIONS

A. Asian Population Studies Series*

No.1** *Administrative Aspects of Family Planning Programmes – Report of a Working Group* (E/CN. 11/742; United Nations publication, Sales No. 66.II.F.10): 1966

No.2** *Family Planning, Internal Migration and Urbanization in ECAFE Countries – A Bibliography of Available Materials* (E/CN.11/807; United Nations publication, Sales No. E.68.II.F.13): 1968

No.3** *Communications in Family Planning – Report of a Working Group* (E/CN.11/830; United Nations publication, Sales No. E.68.II.F.17): 1968

No.4** *Assessment of Acceptance and Effectiveness of Family Planning Methods – Report of an Expert Group* (E/CN.11/882; United Nations publication, Sales No. E.69.II.F.15): 1969

No.5** *Evaluation of Family Planning Programmes – Report of a Regional Seminar* (E/CN.11/936; United Nations publication, Sales No.E.70.II.F.20): 1970

No.6** *Fertility Studies in the ECAFE Region – A Bibliography of Books, Papers, and Reference Materials* (E/CN.11/992; United Nations publication, Sales No. E.72.II.F.3): 1971

No.7 *Interrelation between Population and Manpower Problems – Report and Selected Papers of a Regional Seminar* (E/CN.11/1015): 1972

No.8 *Research, Teaching and Training in Demography – A Directory of Institutions in the ECAFE Region* (E/CN.11/1007): 1972

Supplement No.1 (E/CN.11/1007/Add.1): 1974
Supplement No.2 (E/CN.11/1007/Add.2): 1974
Supplement No.3 (E/CN.11/1007/Add.3): 1976

No.9** *Report of the Working Group on Training of Personnel in Family Planning Programmes* (POP/TPFP/1; mimeographed): 1972

No.10 *Report and Selected Papers of the Regional Seminar on Ecological Implications of Rural and Urban Population Growth* (E/CN.11/1043): 1973

No.11 *Population Aspects of Social Development – Report of a Regional Seminar and Selected Papers* (E/CN.11/1049): 1972

No.12 *Socio-economic Returns of Family Planning Programmes – Report of an Expert Group Meeting* (E/CN.11/1070): 1973

No.13 *The Role of Voluntary Organizations in National Family Planning Programmes – Report of an Expert Group Meeting* (E/CN.11/1087): 1973

No.14 *Comparative Study of Mortality Trends in ECAFE Countries* (E/CN.11/1108): 1973

No.15 *A Comparative Study of Family Planning Service Statistics Systems in the ESCAP Region* (E/CN.11/1198): 1975

No.16 *Husband-Wife Communication and the Practice of Family Planning* (E/CN.11/1212): 1975

No.17 *Population Periodicals – A Directory of Serial Population Publications in the ESCAP Region* (E/CN.11/1176): 1974

No.18 *Some Techniques for Measuring the Impact of Contraception* (E/CN.11/1119): 1974

No.19-A *Asian Resources for a Population Library Information Network – Report of a Working Meeting* (E/CN.11/1114): 1974

No.19-B *Establishment of a Population Library and Documentation Centre Information Network among the Countries of the ECAFE Region – Report of a Task Force Meeting* (mimeographed): 1974

No.20-A *Report of the Workshop of ECAFE Population Correspondents from Indonesia* (mimeographed): 1974

No.20-B *Report of the Workshop of ECAFE Population Correspondents from Thailand* (mimeographed): 1974

No.20-C *Report of the Workshop of ECAFE Population Correspondents from the Republic of Korea* (mimeographed): 1974

No.20-D *Report of the Workshop of ESCAP Population Correspondents from Pakistan* (mimeographed): 1975

No.21 *Comparative Study of Interrelationship between Levels of Literacy and Skill and Fertility Trends* (mimeographed)

No.22 *Report of the Expert Group on Developing Indices for Measuring the Impact of Training on Job Performance of Field-workers in Family Planning Programmes* (IX.ISSN.0066-8451; mimeographed): 1973

No.23 *Comparative Study of Population Growth and*

---

* No charge, but priority given to Governments and institutions.

ESCAP was previously named the Economic Commission for Asia and the Far East (ECAFE); hence, those titles published before 1975 make reference to ECAFE.

** Available in microfiche form.

Agricultural Change (E/CN.11/1224), 1975, in five volumes:

A: The Inter-country Report
B: Case Study of Japan
C: Case Study of India
D: Case Study of Sri Lanka
E: A Survey of the Philippines and Thailand Data

No.24 *Role of Surveys and Studies for Family Planning Programme Management and Development – Report of a Regional Seminar* (E/CN.11/1225): 1976

No.25 *Report and Selected Papers of the Expert Group Meeting on Training in Family Planning Programme Administration* (E/CN.11/1226): 1976

No.26 *Report and Papers of the Expert Group Meeting on Social and Psychological Aspects of Fertility Behaviour* (E/CN.11/1231): 1974

No.27 *Report and Selected Papers of the Regional Project on Pre-testing and Evaluation of Educational Materials Used in Family Planning Programmes* (E/CN.11/1159): 1975

No.28 *Population Strategy in Asia – Report, Declaration and Selected Papers of the Second Asian Population Conference, November 1972* (E/CN.11/1152): 1975

No.29 *Report of the Comparative Study on the Administration of Family Planning Programmes in the ESCAP Region: Organizational Determinants of Performances in Family Planning Services in Selected ESCAP Countries* (ST/ESCAP/16): 1977

No.30 *Report of the Comparative Study on the Input-Output Relationships in Family Planning Programmes in Selected Countries of the ESCAP Region* (under preparation)

No.31 *Report of the Multinational Study in Methodologies for Setting Family Planning Targets in the ESCAP Region* (ST/ESCAP/14): 1977

No.32 *Guidelines for Preparing Subnational Population Projections* (E/CN.11/1230): 1975

No.33 *Report of the Expert Group Meeting on Population Projections* (E/CN.11/1250): 1976

No.34 *Report and Selected Papers of the Expert Group Meeting on Translation of Population Materials* (ST/ESCAP/13): 1977

No.35 *Population Aspects of Manpower and Employment*

A: A Regional Overview, 1976 (mimeographed)
B: Comparative Study of Five Countries (under preparation)

No.36 *Report of the Expert Group Meeting on Organizational Aspects of Integrating Family Planning with Development Programmes* (under preparation)

B. Country Monograph Series

No.1 *Population of Hong Kong* (E/CN.11/1120): 1974
No.2 *Population of the Republic of Korea* (E/CN.11/1241): 1975
No.3 *Population of Thailand* (under preparation)
No.4 *Population of Sri Lanka* (under preparation)
No.5 *Population of the Philippines* (under preparation)
No.6 *Population of Japan* (under preparation)

C. Miscellaneous publications

1. *Report of the Expert Working Group on Problems of Internal Migration and Urbanization, and Selected Papers* (SA/Dem/EGIM/L.22): 1967
2. *Projections of Populations of Subnational Areas – Report of a Working Group* (E/CN.11/897): 1969
3. *Directory of Key Personnel and Periodicals in the Field of Population in the ECAFE Region* (E/CN.11/898; United Nations publication, Sales No. E.70.II F.14): 1970

D. The Second Asian Population Conference, Tokyo, 1972

Official report (refer APSS No.28)
Available documents

E. Asian Population Programme News

A quarterly regional newsletter, published since 1971. Issue to date comprise Vol. 1, Nos. 1, 2, 3; Vol. 2, Nos. 1, and 2 and 3 (combined); Vol. 3, Nos. 1 and 2 (combined), Nos. 3 and 4 (combined); Vol. 4, Nos. 1, 2 and 3 (combined), No. 4; Vol. 5, Nos. 1, 2, 3, and 4 (combined); and occasional special issues.

F. Population Headliners

A monthly mimeographed news-sheet. Circulation is limited to ESCAP Population Correspondents and Member Government decision-makers.

G. ADOPT (Asian and World-wide Documents On Population Topics)

A monthly listing of publications with in-depth subject analysis for population libraries and reference centres in the ESCAP region. Available to institutions, professionals, libraries and reference centres on request.

HOW TO OBTAIN ESCAP PUBLICATIONS

ESCAP publications for sale may be obtained from:

(1) ESCAP secretariat, United Nations Building, Rajdamnern Avenue, Bangkok 2, Thailand

(2) Sales Section, United Nations, New York, N.Y. 10017, USA

(3) Sales Section, European Office of the United Nations, Geneva, Switzerland

ESCAP free publications may be obtained only from ESCAP at address (1) above.